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OUR COUNTRY AND COLONIAL SUBSCRIBERS are requested to furnish the Editor with any trade gossip that they may consider interesting.

SPECIAL NOTICE TO SUBSCRIBERS.

The delivery of the "CHEMIST AND DRUGGIST" in a Green Wrapper is an indication that with that issue the Subscription of the Recipient has expired; and it is respectfully intimated, that after such notice, no further copies will be forwarded until the same has been renewed.

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Editorial Notes.

ALTHOUGH we do not care to blow our own trumpet too loudly, we may remind our subscribers that the promises made by us early in the year now waning have been amply fulfilled. Our journal has been greatly enlarged, and the increased scope afforded for the development of special sections has been turned to good account. By our Report on the Condition and Practices of various Classes connected with the Drug Trade, attention has been pleasantly directed to many important trade questions. The problems printed in our Corner for Students have been gratefully accepted by the rising generation of Pharmacists, and have led to much useful work, the monthly prizes having doubtless helped to sustain the energy of the workers. The numerous articles on Dentistry, Homœopathy, and Photography, which have appeared in our pages have gained us many new supporters, and the value of the information derived from them has been duly acknowledged by old subscribers. Many important Original Communications, some of them bearing the names of leading pharmaceutical writers, have been published during the present year. The section devoted to Reviews of Books has been extended, and has comprised notices written by various competent critics. In our Notes of Novelties, Reports of Meetings, Trade Reports, Trade Memoranda and Monthly Summary of News, our readers must have observed the good results of an earnest desire to render the CHEMIST AND DRUGGIST a perfect mirror of the trade.

Our journal enters on the tenth year of its existence as the new Pharmacy Act comes into operation, and we will spare no pains to make the former indispensable to every registered Chemist and Druggist and Pharmaceutist. Though our arrangements for 1869 have not yet been completed, we can indicate a few of the special features of our forthcoming volume.

In our January number we shall commence the publication of Analytical Reports, giving the results of analyses performed expressly for this journal. The first series of reports will be on

(HAIR RESTORERS,) HAIR DYES AND COSMETICS. By HENRY MATTHEWS, F.C.S.

Having lately received many inquiries respecting the composition of advertised toilet articles, we are confident that the results of a systematic examination of these costly preparations will be most acceptable to our readers. Chemists and druggists ought to know the composition of every article that may be kept by them, for though they may be excused for selling a simple preparation with a high sounding name at a fancy price, they should not supply their customers with any toilet article that is obviously harmful. We need not inform our scientific readers that the difficult task undertaken by Mr. MATTHEWS will be conscientiously and skilfully performed.

As most of our country subscribers sell cattle medicines and are expected to know all about new remedies and new modes of treatment in Veterinary practice, we have much pleasure in stating that we have made arrangements for a monthly contribution to be headed

VETERINARY NOTES. By Mr. W. HUNTING, M.R.C.V.S.

Mr. Hunting was formerly connected with the Albert Veterinary College as Lecturer on Anatomy, and his practical experience as a veterinary surgeon will give a special value to his notes.

Our readers will be glad to know that we have made arrangements for the regular publication of Original Reports of the Evening Meetings of the Pharmaceutical Society; and of the proceedings of the principal country Associations of Chemists and Druggists. We have also taken steps to insure the appearance every month of a collection of Abstracts of Foreign Papers, which will give the cream of the pharmaceutical and chemical journals published in France and Germany.

Those sections of our journal which have hitherto given general satisfaction will be strengthened by increasing our staff of writers. Novelties will be noticed, new books reviewed, useful information diffused, the market prices of drugs, chemicals, and oils reported as heretofore; while the scientific portion of our journal will contain original papers by well-known chemists and pharmacutists, with a fair admixture of articles extracted from the pages of contemporaries. Of course our Corner for Students will be kept open as a training ground for "the pharmacists of the future," and we have made arrangements for adding Botany and Materia Medica to the subjects in which our students are examined.

Heartily wishing our readers a merry Christmas we take our leave of them until the new year, when we trust that our subscription hooks will prove that the CHEMIST AND DRUGGIST may be fairly described as the organ of the trade.

THE Chemical News announces that Mr. ALEXANDER Y. STEWART, formerly assistant to Professor ANDERSON, of Glasgow University, has been appointed Chemical Operator to the Apothecaries' Company.

A BILL has just passed the House of Commons of Victoria, to make the use of the British Pharmacopœia, 1867, published under the direction of the General Medical Council, compulsory in the colony from the 1st of January next. The various pharmacopœias hitherto followed are therefore superseded.

At the annual meeting of the Fellows of the Royal Society the following awards of gold medals took place: The Copley, to Sir CHARLES WHEATSTONE, D.C.L., Oxon, Professor of Experimental Philosophy, King's College, London; the Rumford Medal, to Dr. BALFOUR STEWART, M.A., Superintendent of the Kew Observatory of the British Association. Of the two Royal Medals, one was awarded to the Rev. Dr. SALMON, Regius Professor of Divinity in the University of Dublin; and the other to Mr. ALFRED RUSSEL WALLACE, well known by his researches in the zoology of the Eastern Archipelago.

POISONS: THEIR SALE AND CUSTODY.

BY A. W. SMITH.

SO many times has this subject occupied the attention of gentlemen professing qualifications infinitely superior to my own, that I confess I hesitate to begin; yet I feel that much more remains to be said, and therefore commence, hoping that if my endeavours are worthless or abortive, they may incite some one to contribute an article which may have the effect of insuring the adoption of proper precautions by those who are weighted with the responsibility of dealing in poisons.

That there is some need for legislation with regard to poisons I think few will deny; but what that particular legislation should be is a difficult problem to solve. As the law stood before the passing of the Sale of Poisons' Bill, with the exception of arsenic, no restriction or registration of sale was necessary; consequently, the public made full use of their privileges in sending for and purchasing every conceivable poison, and many would consider themselves insulted on being asked of the seller the purpose for which the article sought for was required.

When we consider the almost innumerable articles chemists are obliged to keep either for use or sale, and these nearly all more or less poisonous, we at once perceive the great difficulties in the way.

Many of us well know, as soon as our shops are opened in the morning, the stream of drugs begins to flow. The first customer may be a small child sent for a pennyworth of white or red precipitate; of course, we very naturally inquire who requires it, and for what purpose, neither of which questions the child is old enough, even if it knew, to answer satisfactorily. What is the best course to pursue? If on the one hand we tell the child we cannot send it, we may offend the customer, who is highly indignant at our suspicions; again, if we send the child to ascertain the purpose for which it is wanted, the poor little urchin is scolded or whipped for not having brought it, and is sent back with threatenings to the hesitating chemist. While, on the other hand, if the child has forgotten the article for which it was sent, and white precipitate or sugar of lead occurs to him from having fetched it before, when perhaps "Epsom salts" or "cream of tartar" was wanted, it may happen, with ignorant people who do not look at the label, that some harm is done, and the chemist is blamed for carelessness in selling poisons to a child.

We will now take the case of opium. People who are in

the habit of taking this disagreeable, yet useful drug, are very often unable, either from ill-health or some other cause, to go to their chemist themselves, and consequently send a child or stranger for it, and of course expect it to be sent. But who likes to trust either a child or a stranger with enough opium to poison from half a score to half a hundred people, unless he knows the applicant and can confidently trust him? Yet if the chemist refuse, he is anathematised in no very complimentary way, and considered too independent for his business, the public forgetting altogether that he is taking all these precautionary means for their benefit.

Of course the same argument holds good with other poisons, and we notice only as we proceed the case of laudanum. During last year, when cholera was raging in London and other towns of England and abroad, the public were advised, both by some of the press, by letters from medical men and others, to treat the complaint in its first stages with small doses of laudanum, also reminding those who travelled not to be without this presumed elixir vite.

These suggestions brought many to chemists for ounces or more of laudanum, in order to be prepared for the foe. Well, what was to be done? Some were going abroad and wanted enough to last them the voyage; others lived in villages where they could not get it; and a variety of other excuses being advanced in endeavouring to procure it. This again placed us in a very awkward position. To deny some was to give direct offence; to refuse others would prevent such customers coming again, or would render you liable to a disgusting insult, for the applicant could get any quantity at a huckster's hard by, and shake the bottle defiantly in your sight on his return; or the gratifying of the customer's wishes if he used the poison suicidally, would entail a disagreeable attendance before a coroner, and perhaps the hearing of a lecture of caution or censure for not doing your best to prevent accident. The same remarks will apply to any poison.

So much, then, for the difficulties in retailing poisons at the present time. The question, therefore, arises, how to make it more satisfactory to us as chemists, and safer for the public generally. I think, were the sale to children under sixteen years of age prohibited, it would be beginning in a right way; and although the registration of the sale of a few poisons named in a schedule may entail some little trouble, yet it would prove a check to the improper use of the same, and would deter many from purchasing poisons they did not really require. Whether or not the new Pharmacy Bill will prove a success in this respect remains to be proved; at any rate, we will not comment upon it until we have seen it in operation, but let us hope for the best, for we well know the Pharmaceutical Council and chemists generally will be only too glad if by its means accidents are diminished and suicidal intentions frustrated.

We will now make a few remarks on the Keeping of Poisons. It is the custom of some to keep the poisons in bottles similar to those in which ordinary drugs are kept, with similar labels, and on the same shelves—for example, strychnia has been kept on a shelf with powdered bismuth in precisely the same kind of bottle, and tincture of opium on a shelf with tincture of senna, in similar bottles with similar labels. Now this may be a customary, or we may call it a professional way, but in our opinion it is a highly reprehensible one, and one which ought at once to be abolished. It is advanced by some that he who does not look at the label before he takes a bottle down must be careless indeed, and deserves to be expelled the profession; while by others, that he who does not know the difference in the appearance between Pulv. Bismuthi Subnit. and

P. Strychnia, or the smell of Tinct. Opii from Tinct. Sennæ Co. ought to be punished, and many like excuses are offered in justification of keeping poisons indiscriminately with other drugs; but be this as it may, no amount of argument, no number of excuses, no claim to educational superiority, can justify one mistake caused by such a hazardous system, or restore a life that may have been sacrificed by such obstinate persistence.

It may be argued by some that such poisons are in constant request, and that it would entail much extra labour to keep them in distinct places, and that it would monopolise too much room, as chemists' shops, with few exceptions, are rather contracted, or some other nursed-up excuse; but excuses they are, and without the slightest foundation or palliative admission.

It is, however, we believe, a much more general plan to classify poisons than formerly; and the most sensible members of the profession do keep such deadly agents in particular places, so that should they or their assistants be off their guard—and, alas! poor human nature is so often off its guard—that a mistake would be far less likely than in the old style of keeping.

We can fancy these remarks being pooh-poohed by those who still continue the old and dangerous plan, but it may be—we sincerely hope not—their misfortune to take our advice when personal experience has endorsed our opinions.

If classification is desirable, how then is it to be done? It is impossible for us to enter into details, which can suit our numerous readers, with regard to the arrangement of their pharmacies. We would shrink from such presumption; but still we can offer a few general remarks which may form a basis of operations, and be improved on individually to meet each respective case. "It is far better to lock the stable before the horse is stolen."

The few of the most active poisons, then, such as Strychnia, Atropia, Aconitia, Morphia, and other vegetable alkaloids, Hydrocyanic Acid and others of this class, we maintain, should be kept in a place by themselves, either in a cupboard or locked box, that the very fact of going to such depository should remind the person that he is treading on dangerous ground; and this idea would immediately place him on his guard, and lead him to think more particularly of the object of his search and its danger.

How many accidents may this arrangement have already prevented! And we say again, that such who are thus cautious, and we would also say prudent, are striving in a proper manner to reduce the number of accidents, and have our hearty approval. But before we conclude the arrangement of these very powerful poisons, we would also advocate similar precautions with regard to some of the less deadly weapons, such, for instance, as P. Opii, P. Antim. Tart., Ext. Belladonnæ, Tinct. Aconiti, and Lin. Aconiti; for even these, we contend, ought not to stand in similar vessels and intermixed with others which contain apparently similar preparations, as P. Cinchonæ, Lancifolia, Ext. Hyoscyami, Tinct. Aurantii, or Lin. Saponis; as oftentimes, when dispensing, it occurs we may be excited by some annoying intruder, or interested in the conversation of some waiting customer, or perhaps feel exhausted from pain, or sleepy from loss of rest, or—if an aged Æsculapian—unnerved from ennui, or a hundred other reasons may distract our attention and a mistake, if not fraught with danger, is the likely result.

Such, then, are our pleas for greater care in the general arrangements of the shops of those we are doing our best to counsel. The next point we have to dilate on is the "selling" of poisons and the mode of packing them.

Of course few chemists are without what we should call

ordinary discretion, and all honour due to the class that are rarely found wanting in this respect; therefore we need not tire our readers with more commonplace remarks on the less significant details of the sale of poisons. It suffices to say, that when asked by a stranger for a poison, a certain discretionary amount of questioning, cautioning, and labelling is not only necessary, but would be given; and if the seller is satisfied, i.e., so far as he can be from the answers received to his questions, he is generally justified in supplying the article in request in accordance with the new Bill. But when children or known low characters ask for poisons, we think some hesitation, if not a direct refusal, ought to be observed.

We will, *en passant*, advert to the poison-bottle topic, which engrossed the attention of a few enthusiastic persons during the passage of the Pharmacy Bill through Parliament, who, as their effusions testified, were anxious to suggest something that they suspected chemists never dreamt of. Some of their remarks were good and reasonable, while others were not only impracticable and utopian, but simply absurd.

Any chemist is well aware if he introduces a new "poison bottle," or in fact any fresh or peculiarly shaped bottle with a powerful preparation in it, the moment it enters a house, a daughter, or a son, promises herself or himself the bottle when empty for a perfume casket or pocket flask; or may be one of the younger branches take possession of it before it is empty for a sweet bottle, or, to speak in nursery parlance, a "spanish-water" bottle, a solution of Succus Solazzi in aqua pura vel impura; or a servant may show affection for it as a vehicle for hair oil and a toilet ornament; so that by degrees the very object of danger becomes a household prize.

Again, how many there are who make one bottle serve—we should be sorry to say—how many purposes! At one time it comes for a pennyworth of child's cordial, at another for a pennyworth of lavender water, at another for castor oil, and again for spirit of nitre, and perhaps at intermediate periods is a receptacle for rum or gin or other necessary requisites supplied by Boniface and Company. Each time this said bottle comes must the label be cut off and a new one substituted; although, we regret, there are still some who, in a very careless and idle way, stick one label over another for any number of times, which is not only a negligent, but a reprehensible practice, as danger might accrue from such a repetition. For instance, the bottle might be used for Tinct. Rhei and then afterwards for Tinct. Opii; whereas, should the Tinct. Opii label by any means get off, it would leave the Tinct. Rhei intact; hence a serious mistake might arise.

Experience, therefore, teaches us that a poison bottle is, to a certain extent, useless as a preventive against poisoning. But while we expose its partial failings we must admit that a peculiar bottle is also desirable, especially when a physician prescribes a lotion and mixture in the same quantity; therefore, while we give our preference to a blue and differently shaped bottle in all cases when practicable, we do not place so much reliance in its adoption as some do.

It is a fact much to be regretted that nurses and others do not pay that attention to the labels on bottles they ought, and the urgency of the case demands, as they often pour from bottles without looking at the labels, and in some cases without taking them out of their wrappers; so that the dispenser's best endeavours to avoid mistakes are not only inappreciated but entirely disregarded.

There are some chemists who ridicule the idea of putting an extra label on a bottle, but surely if extra labels on

bottles prevent one single mistake the chemist is repaid for his trouble. With regard to poisons in packets for retail sale, as a rule, they are done up too much like innocuous drugs, which is also a bad plan. As white dowy is the ruling envelope (and very properly too) for packing drugs for retail sale, it is better to use coloured paper for poisons; so that in addition to a legible label indicating the contents, the packet itself may also prove a caution. Supposing, for instance, we pack our poisons in brown paper. We select this colour because fancy and dietetic articles are often wrapped in coloured paper, and children are also glad to pick up a piece of pretty paper, therefore we think brown alike uncommon for small parcels, unostentatious, and, consequently, uninteresting to children.

If such simple means as these were adopted, we venture to hope sugar of lead would not easily be sold for Epsom salts, nor white precipitate for quinine. We simply offer these remarks with a good motive, though we may be classed with nervous members of the community—nay, more, our precautions may be called absurd, yet if they only prevent one mistake, how much good indeed shall we have done, how much harm indeed shall we have prevented. Therefore we fearlessly offer our short article, soliciting a perusal by all, and the adoption of the suggestions we have advanced by any who are anxious not only for their own good, but also for the safety and confidence of others.

ABSTRACTS OF FOREIGN PAPERS.

DELICATE TEST FOR HYDROCYANIC ACID. BY PROFESSOR SCHÖNBEIN.

LIEBIG and Buignet's reactions for the detection of hydrocyanic acid not being capable of showing the presence of extremely minute quantities, so as to give certainty in detecting the traces of crime, the *Journal de Pharmacie et de Chimie* has published some experiments on a new reaction invented by Professor Schönbein. The reaction involves the use of a test-paper, made by soaking porous paper in rectified spirit, containing three per cent. of resin of guaiacum, and a solution containing two-tenths per cent. of copper sulphate. When a strip of the paper is moistened with the cupric solution, and brought in contact with hydrocyanic, diffused throughout a relative vast bulk of water or air, the paper almost immediately turns blue. The experiments above mentioned show that this reaction will indicate the presence of one part of hydrocyanic acid in 120 millions of air or water. Another experiment shows the delicacy of this test in a striking manner: 800 grammes of fresh meat were divided into two equal portions; one portion was moistened with twenty drops of one per cent. prussic acid, left open to the air for twenty-four hours, and then enclosed in a large vessel with a piece of the moistened test-paper; the reaction was complete in two or three minutes. The other portion being exposed in a similar vessel with a second piece of test-paper, did not cause it to become coloured. The colouring of the test-paper was not effected by the vapours of the various acids, such as sulphuric, nitric, hydrochloric.

ON THE SOLUBILITY OF STARCH, SUGAR, AND GUM IN GLYCERINE. BY M. VOGEL.

When starch-powder is heated with glycerine, a thick solution is obtained which deposits on cooling. The clear fluid may be decanted; it contains starch in solution. Glycerine easily dissolves sugar and gum. Sugar is soluble in two and a half times, gum in three and a half times its weight of glycerine. As this solubility of sugar and dextrine in glyce-

rine has provided manufacturers with an adulterant of which they have not been slow to avail themselves, we may extract the following method of detecting this fraud from the *Journal de Pharmacie* :—

Five drops of the suspected glycerine are mixed with about 100 drops of distilled water, half a grain of ammonium molybdate, and one drop of pure nitric acid, sp. gr. 1.14, in a capsule, and boiled for a minute and a half. The smallest trace of sugar or dextrine causes a blue colour, whilst, if the glycerine is pure, it will remain uncoloured.

NOTE ON SYRUP OF IODIDE OF IRON. BY M. JEANNEL.

M. Jeannel recommends the following formula for the preparation of syrup of iodide of iron :—

Iodine	16½ grammes.
Iron filings	8 "
Distilled water	40 "
Pure honey	140 "
Tartaric acid	1 "

The iodine, iron filings, and distilled water are mixed in a glass vessel, and agitated until the liquid acquires a green tint; it is then filtered, and the honey and tartaric acid added. This solution represents one grain of iodide of iron in ten grains; it will keep for months in a vessel simply closed with a piece of paper. M. Jeannel further remarks that a half per cent. of tartaric acid added to a specimen of syrup of iodide of iron that has clouded, will clear it and improve its taste.

DETECTION OF STRYCHNINE IN CASES OF POISONING. BY M. CLOETTA.

M. Cloetta recommends the following process for the detection of strychnine in animal substances. The albumen is first removed by precipitation with subacetate of lead and filtration, the excess of lead removed by hydrosulphuric acid gas and filtration, and the filtrate evaporated to dryness. The residue is digested with aqueous ammonia for four and twenty hours, agitated with twice its bulk of chloroform, which is separated and evaporated. The residue is dissolved in about a drachm of dilute nitric acid, and filtered; the filtrate mixed with a drop of bichromate of potassium solution in a watch-glass. In a few days, minute crystals of chromate of strychnine are formed, in which the chemical characteristics of strychnine may be recognised. M. Cloetta states that by this process $\frac{1}{30}$ of a grain of strychnine may be recognised in 10,000 grains of urine.

ANILINE IN SWEETMEATS.

The Prefect of Police in Paris has interdicted the use of aniline in sweetmeats, because analysis has shown that the aniline colours often contain arsenic, and might, therefore, often be the cause of serious accident.

PRODUCTION OF ALCOHOL FROM LICHEN. BY M. STENBERG.

The author utilises the enormous quantities of lichen found in Sweden by manufacturing them, first into glucose, and then into alcohol. The lichen, known as *Cladonia Rangiferina* H., gave the most satisfactory results, yielding from 66 to 68 per cent. of glucose. The isolated glucose retains a very disagreeable taste; when fermented, the alcoholic liquid tastes of almonds.

CHEMISTS AND DRUGGISTS AND THE WINE TRADE.

THE introduction into our advertising pages of the addresses of two of the most enterprising companies connected with the wine trade affords us a fitting opportunity to call the attention of chemists and druggists to a

source of income which presents itself to them, and which we are confident may become, if worked with anything like energy, one of the most profitable *extras* which it is right and proper should be added to the drug trade, pure and simple.

No class of tradesmen has any right to claim the sole prerogative of dealing in foreign wines, and fully allowing for a shade of favourable prejudice which it is possible may have crept into our minds, we believe we have good reason for saying that the chemist's business is, of all others, the one most excellently adapted for extension in this direction. For one proof of this assertion we would point to the trade in aerated waters, a business in some respects of a similar character, which trade has been established and almost entirely developed by the exertions of chemists. A tradition, too, still exists in some parts of the country that British wines are among the druggist's perquisites; and if the public go to them for lemonade, soda water, and cowslip wine, there can be no very great chasm to prevent the same public from going to them for their ports, sherries, and clarets just as readily, if they had the opportunity and found themselves well served. We are not very rash in venturing on the prophecy that the palmy days of British wines are over. It is not many years since the consummation of the French Treaty—one of the greatest commercial triumphs of the age—and already the taste for pure light wines has spread amongst all classes, with the opportunities that are offered for obtaining these—once the luxuries of the wealthy—at prices rendering them accessible to all. This taste for the pure juice of the vine we believe to be a natural, and we should almost add, *consequently*, a healthy one—certainly a taste which we should far rather see cultivated in Great Britain than the reckless and ruinous mania for the consumption of ardent spirits; therefore, we have no doubt that the sale of foreign wines will increase year by year, and our object in writing this notice is to attract at once the attention of chemists to this subject, so as to ensure to them a fair start with other tradesmen in this comparatively new field of enterprise. We have no intention of flattering our constituency, but simply state as a social fact that the chemist stands in a highly favourable position towards the consumer of such a commodity as wine—merchandise, the value of which must be, more or less, beyond the judgment of the customer—on account of the confidence which we are proud to say the trade, as a body, has worthily earned by conducting a business of peculiar nicety on high principles of integrity. Besides their influence with the medical profession, to many of whom sound wines are as important adjuncts to successful treatment as quinine and calomel are to others, gives them, to commence with, a peculiarly powerful influence and almost the certainty of a valuable connection. We should be the first to cry shame on the man who would abuse this confidence, and thus help to ruin it, by an unprincipled course of business. There are such, and these we would strongly urge for their own sakes, as well as for the credit of the trade, to keep out of the wine trade, but we would most decidedly request the respectable members of the trade to give these facts their consideration.

The addresses of the Litre Bottle Wine Company and the Standard Measure Wine Company will be found in the present number of the CHEMIST AND DRUGGIST; and while we have no wish to assume any authoritative acquaintance with the value of wines, we can safely say that no chemist need fear risking his reputation with either of these well-established firms. The special advantages which these wine companies offer to their agents and the public they will themselves doubtless indicate. With each business man lies the duty of selection, but we may point out that the

more generally chemists unite the wine business with their own, the more naturally and readily will the public accept the new arrangement. For example, if in a country town all the chemists sold wines, the fact would soon be recognised by the neighbourhood, and wines would very soon be regarded as almost a necessary portion of the druggists' stock?

We have been accused of late that our journal has been almost too ethical, and we are always thankful for any practical hints like those. But we think we may now especially claim the attention of our critics to these remarks, and we hope they will profit by them.

The following particulars respecting the legal qualifications for the sale of wines have been kindly furnished to us from the Inland Revenue office, and will probably be serviceable:—

"Every person who keeps a shop for the sale of other goods and commodities may obtain a licence for the sale of wine not to be consumed on the premises, and in reputed quarts or pint bottles only.

The charge for the licence annually when the premises are rated under £50 £2 2s.
At £50 or upwards 3 3

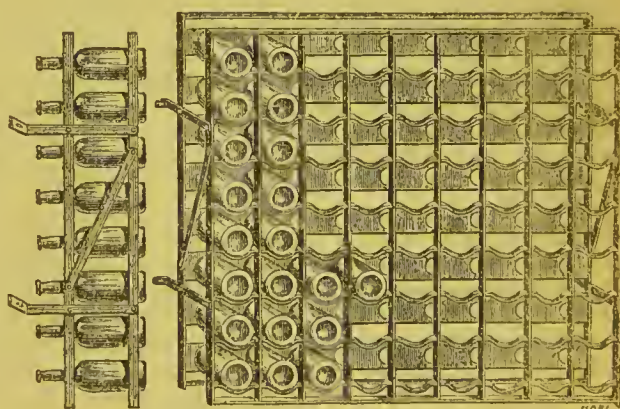
"This licence includes the sale of both foreign and British wines, but the quantity sold at one time must be less than two gallons or than one dozen reputed quart bottles.

"The licence expires on the 31st March, and persons taking one out for the first time at any other time pay only for the remaining quarters of the current year.

"Spirits are not allowed to be kept or sold in the same place with the wine."

The licence for the sale of wines may be taken out at any time by merely paying the proportion equivalent to the unexpired period of the Inland Revenue year. Thus, for example, if one should commence this trade on the 1st of January, he will only be required to pay one-fourth the full amount for the quarter which may have yet to run.

We may take advantage of this occasion to describe a very useful rack for storing wines which has been lately brought under our notice, and which is equally adapted for those who keep wines for sale and those who keep them for consumption. These racks are made by Messrs.



W. and J. Burrow, of Malvern, and are clearly an adaptation of those which they introduced last spring for the storage of mineral waters. The engraving explains the principle so distinctly, that we need not further refer to it except to remark that the advantages which are possessed by the soda-water racks, and which we have before pointed out, are equally valuable in the case of wines, as economy of space, safety for the bottles, and the assurance of a good condition of their contents, are likely to be highly appreciated by wine dealers and wine drinkers.

THE WRITING OF PRESCRIPTIONS.*

THERE is a portion of medical education which would seem to be imperfectly provided for in the existing methods of instruction at our schools. Upon entering practice the medical man finds himself called upon to write, at a moment's notice, prescriptions which will not only be likely to benefit his patients, but which have often to bear the scrutiny of persons well qualified to judge of the language in which they are couched, and disposed to compare them with others in their possession. With certain honourable exceptions, we do not think that teachers apply themselves to this branch of instruction—the writing of prescriptions—with the energy which they might display. There are plenty of men turned out of school each year well qualified, as regards their knowledge of pathology and the principles of treatment, to hold their own perfectly well, and to act as safe guardians of the public health; but set them down to write a prescription in tolerable Latin, and with a just recognition of the qualities of the drugs employed, their compatibility or appropriateness of dose and form, and they will produce results sufficiently remarkable to excite the astonishment of any druggist's assistant who is used to the well-conceived productions of more experienced advisers. We chauce to know that at two recent examinations the deficiency of candidates in this respect was very striking. At the examination in Medicine at the College of Surgeons, there were instances of lamentable ignorance in regard of the proper doses of drugs; whilst even at the second M.B. examination of the London University—the last place where such ignorance would be looked for—signal examples occurred of men, otherwise well instructed, who could not write a decent prescription in Latin. There is, no doubt, one good reason for this deficiency. In hospital practice, students are so much more accustomed to see the severest forms of organic disease than functional derangements of passing character, that they are, in the nature of things, from observing the inertness of drugs in checking the tendency to death, disposed to scepticism about the value of such agents. It is one of the weak points, indeed, of medical education that the student can with difficulty receive adequate instruction respecting the class of ailments which abound in private practice, but are rarely seen within the walls of hospitals. In this respect he, no doubt, was better circumstanced under the old system of apprenticeship. Scattered through the kingdom, there are great numbers of private practitioners who, from long experience, have acquired for themselves a knowledge of the use of drugs, and the best mode of employing them, which is of daily service in their practice. This knowledge, it must be allowed, cannot altogether be taught anywhere. The lesson has to be learnt in great part by the practitioner himself, and he has often to go through many disappointments and mortifications ere he learns it. The inapplicability of a drug under certain circumstances, its objectionable qualities as regards taste, form, and colour to persons of peculiar nature, the results which it produces, and the time occupied in producing them, together with numberless other apparently trivial but really important matters, constitute bits of knowledge which often make all the difference in the success or failure of a medical man's career. And here we would urge that great consideration is due to the public upon such points. Our patients blindly swallow what we order them; follow our instructions, however disagreeable; and it is palpably a duty which we owe to society that the results which we seek to attain should be brought about with the least discomfort possible to those who thus submit them-

selves to our orders. Every day's experience shows us that for almost every therapeutical indication there are several modes of arriving at an equally good end, some easily followed and not disagreeable, others in the last degree vexatious and uncomfortable. Successful general practitioners expert in this kind of knowledge may, and very often do, impart the most useful hints to their pupils upon this subject—hints which in their future career they turn to profitable account. The physicians and surgeons of our hospitals, equally well informed as they doubtless are in such matters, do not, we think, always reflect upon the duty of impressing such experience upon the pupils in the wards. We have seen, over and over again, in the metropolitan hospitals, prescriptions which we should never dream of employing in the case of a private patient. The different habits of life which make the treatment suitable in the one case would pretty certainly entail the loss of a patient if it were employed in the other. It is for the teacher to remember this difference, and to point out the fact to his pupils. It is for him also to see, by frequent examination, that the student is able to frame his thoughts, when prescribing, in suitable words, and with a just appreciation of what is sought to be effected by the prescription. The world is large. For every patient unhappily afflicted with irremediable disease, the practitioner will meet with fifty in which a dexterous employment of the drugs at his command will make all the difference in the sufferer's comfort, and in the duration of the passing malady. To effect this object, however, he must have that delicate insight into the uses of drugs which is not acquired without a good deal of trouble in the wards of an hospital. But whilst we thus allow the difference of the circumstances and the difficulty of contending against them, we still think that more might be done in the way of teaching the student to exercise a little taste and refinement in the writing of a prescription, and in ensuring that he is accurately acquainted with the appropriate doses of the drugs he employs.

THE ZIRCONIA LIGHT.

MESSRS. TESSIÉ DU MOTAY AND CO. have patented an invention for improvements in preparing zirconia, and the employment of the same to develop the light of oxyhydrogen flame. The specification is as follows:—

Zirconia, or oxide of zirconium, in whatever manner it may be extracted from its ores, can be agglomerated by compression; for example, into sticks, discs, cylinders, or other forms suitable for being exposed to the flame of mixtures of oxygen and hydrogen, without undergoing fusion or other alteration. Of all the known terrous oxides, it is the only one which remains entirely unaltered when submitted to the action of a blow-pipe fed by oxygen and hydrogen, or mixtures of oxygen with gaseous or liquid carbonated hydrogens. Zirconia is also, of all the terrous oxides, that which, when introduced into an oxyhydrogen flame, develops the most intense and the most fixed light.

To obtain zirconia in a commercial state, I extract it from its native ores by transforming by the action of chlorine in the presence of coal or charcoal the silicate of zirconium into double chloride of zirconium and of silicium. The chloride of silicium, which is more volatile than the chloride of zirconium, is separated from the latter by the action of heat; the chloride of zirconium remaining is afterwards converted to the state of oxide by any of the methods now used in chemistry. The zirconia thus obtained is first calcined, then moistened, and submitted in moulds to the action of a press, with or without the intervention of agglu-

* From the *Lancet*, Dec. 12.

tinant substances, such as borax, boracic acid, or clay. The sticks, cylinders, discs, or other forms thus agglomerated, are brought to a high temperature, and thus receive a kind of tempering or preparing, the effect of which is to increase their density and molecular compactness.

I can also compress, in moulds shaped for the purpose, a small quantity of zirconium capable of forming a cylinder or piece of little thickness, which may be united by compression in the same mould to other refractory earths, such as magnesia and clay. In this manner, I obtain sticks or pieces of which only the part exposed to the action of the flame is of pure zirconia, while the remaining portion which serves as a support to it is composed of a cheap material.

The property composed by zirconia of being at once the most infusible, the most unalterable, and the most luminous of all the chemical substances at present known when it is exposed to the action of an oxyhydrogen flame, has never before been discovered, nor has its property of being capable of agglomeration and moulding, either separately or mixed with a small portion of an agglutinant substance.—*Chemical News*.

THE CHEMISTS' ANNUAL BALL.

WE have much pleasure in calling the attention of our readers and their friends to an advertisement respecting this subject, which appears elsewhere in these columns. The Ball will be held at Willis's Rooms, King-street, St. James's, on Wednesday, January 20th, 1869.

Great pains have been taken by the gentlemen constituting the committee to insure success. The general management and direction during the evening will be under their personal superintendence, and the number of dances, in accordance with the wishes of those present on the last occasion will be augmented. As an additional incentive, a liberal allowance of "Lancers" has been provided, a prejudice existing in the minds of some in favour of this quadrille—

Ah ! que j'aime les militaires !

Let us hope for a large attendance on the occasion, the first since Pharmacy has been legally recognised in England.

The ball is now under the direct sanction of many who have other than Terpsichorean distinctions, and who are only too happy to promote the social enjoyment of the community, and of their younger friends. The oftener we can meet together, and let home influence smile upon our daily and necessary occupations, the better for us all.

THE PHARMACY ACT, 1868.

WE may remind our readers that from and after the last day of the present month it will be unlawful for any person to sell or keep open shop for retailing, dispensing, or compounding poisons, or to assume or use the title of "Chemist and Druggist" unless he be registered under the Act. Those who have not yet applied to be registered must forward their applications to the Registrar before the end of the year if they would avoid paying registration fees. Assistants, who are entitled to registration on passing the modified examination, must likewise send in their certificates before the 31st instant; but they need not present themselves for examination before the Act comes into operation.

Assistants who have been engaged abroad for a portion of the period of three years immediately preceding the date of the passing of the Act justly complain that they are not entitled to pass the modified examination. We trust, how-

ever, that some arrangement may be made which will allow the Registrar to put a new construction on the prescribed three years' service.

With respect to the regulations to be observed in the Sale of Poisons, we may inform our readers that the Council of the Pharmaceutical Society have proposed certain resolutions by which the obscure parts of Poison Schedule will be elucidated. Though these resolutions have not yet been officially approved by the Privy Council, we can indicate their principal effects.

The red and yellow prussiates of potash are excluded from the class of compounds described in Part I. of the Poison Schedule, as "cyanides of potassium, and all metallic cyanides."

With certain exceptions, solutions of strychnia and other poisonous alkaloids and their salts, must be retailed under the same restrictions as the alkaloids and their salts. The exceptions are solutions of morphia, and such preparations as "Easton's syrup," which may be sold without registration if properly labelled.

Preparations of opium containing containing 1 per cent. and upwards of the drug will have to be labelled "Poison" when retailed, according to the provisions of the Act; but preparations containing less opium will have to be labelled "Dangerous."

By "Poppies," the capsules of the opium poppy are to be understood, and preparations of poppies will have to be sold under the restrictions applicable to weak opium preparations. Every label, whether bearing the word "Poison" or the less frightful word "Dangerous," must exhibit the name of the article to which it is attached, with the name and address of the seller.

With respect to vermin killers, we understand that the Privy Council insist that they shall only be sold under the restrictions applicable to the poisons they contain. One effect of this regulation will be to prevent all persons except chemists and druggists selling these preparations.

We cannot at present give a precise account of the proposed regulations, but we believe we have fairly described their objects.

On the subject of the sale of poisons, Mr. Mackay, of Edinburgh, has issued the following memorandum, to be inserted in his well-arranged Register for Poisons:—

"Since the publication of the Poison Register, there have been many inquiries regarding the exact interpretation of the Poison Schedule. Time is said to work wonders, and in this particular case, I feel certain, that ere long there will emerge from apparent confusion and uncertainty a safe and uniform rule to guide the Chemist and Druggist, in reference to his responsibility in vending the articles named in Schedule A. A few of the difficulties which have come under my observation may be stated. There are many who do not believe it possible to obtain signatures for trifling retail sales,—others are unwilling to think that mild preparations of Opium are to be marked Poisons,—some smile at the idea that Morphia and Paregoric Lozenges are to have a warning label of *Poison* attached,—many think their Prescription Book will swell to a large size in copying all the forms into which any preparation of Opium or Poppy may enter, even when in minute quantities,—and others again conceive to label a dose of Dover's Powder *Poison*, and write "*To be taken at bed-time*," would be both inconsistent and absurd. In other words, the shades of Johnson and Walker would have to be raised, in order that another definition might be entered for the word *Poison*.

"In the meantime, and until something definite and authoritative be issued, I would suggest that all registered under this new Act should use common sense and discretion

in dealing with the articles and their preparations which are enumerated in the Poison Schedule. A moment's reflection will, I think, convince any one that Government never intended half an ounce of Paregoric Elixir, or the same quantity of Antirrhoeal Wine, to be treated as Poisons, for it is almost impossible to conceive that dangerous results would flow from the sale of one or other of these in such small quantities. A very strong poisonous solution, however, of Tartar Emetic or Corrosive Sublimate would, I think, be as objectionable as selling the substances in bulk, and ought, therefore, to be treated as Poisons when so sold."

CITY OF LONDON SCHOOL.—HALL TESTIMONIAL FUND.

THOSE of our readers who are interested in the City of London School, or in science teaching, will regret to learn that Mr. THOMAS HALL, B.A., F.C.S., who has for the last twenty-one years conducted the science classes of the City of London School, being one of the earliest, if not actually the first science teacher at any public school, has been compelled by ill-health to resign, not only his science teachership, but also his assistant mastership in the school, and that there is little or no hope of his health being sufficiently recovered to allow of his resuming his occupation as a teacher. Mr. Hall is now in the South of France, it being considered that a winter in England would be most dangerous in his present state of health. Under these circumstances, two meetings of his former pupils have been held, with the view of raising a fund to present him with a testimonial. For this purpose a Committee has been formed, including among many others:—

The Rev. Canon Mortimer, D.D.; the Rev. E. A. Abbott, M.A., Head Master of the school; E. Divers, Esq., M.D.; the Rev. H. Fagan, M.A., Head Master of the Bath Grammar School; C. W. Heaton, Esq., F.C.S.; Mr. Sheriff Hutton; H. Matthews, Esq., F.C.S.; W. H. Perkin, Esq., F.R.S., F.C.S.; J. Spiller, Esq., F.C.S.; W. Spiller, Esq., F.C.S.; W. Thorp, Esq., F.C.S.; the Rev. R. Vardy; E. R. Cook, Esq. (Treasurer), Soap Works, Bow; A. Wood, Esq., F.C.S. (Sub-treasurer), 74, Cheapside; and Jas. T. Brown, Esq. (Honorary Secretary), Oxford Villa, Sudbury, Harrow.

Subscriptions amounting to nearly one hundred pounds have already been promised, although the list has only been opened for a few days.

THE "SCIENTIFIC AMERICAN" ON POISONING.

THE following article is extracted from a recent number of the *Scientific American*, a journal mainly devoted to mechanics and engineering:—

Our attention has been called to this subject by the reports of accidental poisoning, which for a month or so have been numerous. In New York and in other cities such accidents are almost of weekly occurrence. We scarcely look through our daily exchanges without seeing an account of something of this sort. The whole of it is attributable to "carelessness," according to the reports. First, a physician has written a prescription so that it can scarcely be read—a very frequent occurrence by the way—or has used ambiguous abbreviations; next a druggist has blundered in making up the preparation; and, again, the blunder occurs in the family, the dose desired and its selection from the heterogeneous collection of remnants of previous prescriptions, usually kept in a dark corner with the poison for vermin, being entrusted to the highly intelligent and judicious Biddy who presides in the kitchen.

Another class of poisoning of late becoming more and more common, and for which accidental is too mild an adjective, arises from the use of poisonous cosmetics; several cases of which have been recently reported. The most important of these is one occurring in the practice of Dr. L. A. Sayre—lead poisoning from the use of one of the modern preparations for the complexion. The preparation is one in very common use in this country, and its name forms some of the conspicuous advertisements that adorn fences about vacant lots and the street curbstones.

But it is useless to find fault with an evil unless a remedy for it is possible. We have seen that four classes of individuals are in fault: the doctors who prescribe, apothecaries who put up the prescription, the people who take the medicines, and the manufacturers who make and vend the objectionable compounds. Any system of regulations then that will fully correct the evil must embrace each and all of these classes. Doctors should no longer be permitted to write their prescriptions in abbreviated Latin, in so bad a style of penmanship that it could scarcely be read, if it was an invitation to dinner. People who take medicine have some right to judge for themselves whether the dose presented to their lips is calculated to heal their infirmities, or to send them into eternity by the run. It was only recently that an important error in the renewal of the prescription was detected by a patient of our acquaintance, who, although urged strongly, obstinately refused to use it until it could be revised by her physician. Beside this, all physicians should be obliged to put full directions as to the administration of prescriptions on the prescription itself, in place of the too ordinary words, "use as directed." This would be a check on the druggist, who would thus often be led to discover errors when they occur by his knowledge of the effects which medicines are intended to produce, provided that he knows these effects, which, however, is not always the case.

Druggists should be competent to put up prescriptions. We believe there is no department of trade in which, as a rule, retailers know so little that is requisite to the proper conduct of their business, as in the drug trade. We were once told by a druggist doing a large prescription business, the largest in the city where he was located, that vinegar contained no acetic acid. He was only convinced of his error by a reference to the U. S. Dispensatory which lay upon his desk. Now if upon so simple a matter as this, a prominent druggist is found to be ignorant, what confidence can we have that he would be able to detect impurities in his drugs, or that he would, if a physician should order by mistake too large a dose of any powerful remedy, be able to detect the error. We believe that druggists should be made responsible in such cases as well as the physician who prescribes. If a heedless doctor orders him to put up a poisonous dose, he should not be permitted to blindly follow orders. He should do nothing whatever blindly. If he sells cosmetics, he should know what they are made of; if not competent to determine this for himself, he is not fit for his business. If people are poisoned by their use, he, as well as the manufacturer, should be held responsible. The examination of such articles in druggists' shops very rarely extends beyond the wrappers; if they look well, and are likely to sell well, that is all that is requisite.

The habit of putting away remnants of prescriptions for future use is very dangerous, unless the greatest care is taken that they be properly labelled. Dosing should never be left to ignorant servants.

Finally, prescriptions should be written plainly, in plain English, for those who speak English, with all directions in full, that the means of checking errors may be in the power

of every person through whose hands they pass, and the prescription in full, with maximum and minimum dose, together with the dose prescribed, and the directions for its use, should be fully and plainly written out, and pasted upon the bottle, box, or envelope which contains the medicine. If these precautions cannot otherwise be secured, they should be made the subject of legislation, and laws so stringent, with penalties for their violation, so severe, should be enacted, that the reforms we recommend will be thoroughly enforced.

A FRENCH VIEW OF THE NEW PHARMACY ACT.

SOME time ago we animadverted on certain opinions expressed by the editors of the *Bulletin des Travaux de la Société de Pharmacie de Bordeaux*, in discussing the prospectus of an English Legal Defence Association. It is well that we should occasionally "see ourselves as others see us," even though we have to make allowances for the distorting effects of foreign lenses. We therefore translate an article which appeared in a recent number of the *Bulletin*, and which betrays that want of accurate knowledge respecting British customs and British law which invariably characterises the criticisms of French writers:—

"We have long known that our English neighbours had sufficient absolute liberty in the practice of pharmacy. Under pretext of respecting commercial liberty, to every man was permitted the right of preparing, selling, and administering medicines to all comers. We have often had occasion to call attention to the beautiful consequences of this liberal arrangement; the newspapers constantly teemed with accounts of Englishmen being maimed or poisoned; and the famous chemists and druggists being no longer able to meet the demands for damages and compensation with which they were assailed on account of their exploits, when too often repeated, took the heroic step of forming assurance companies. These associations would have allowed them, for a premium paid regularly, to destroy by poison as many of their fellow-countrymen as the circumstances of their practice would permit, without danger to their purse or troublesome considerations of any kind.

"These prudent combinations are now no longer needed. The legislation announced long since is now an actual fact. The English Parliament has just adopted a law, to come into effect on the 1st of January next, which regulates at the same time the practice of pharmacy and the sale of poisons.

"We know that up to the present time it was lawful for anybody to take the title of 'pharmacist,' and to perform the duties of one as well as he could. The Pharmaceutical Society of Great Britain conferred many testimonials of capability, but they were simply for the private satisfaction of the candidate, and his diplomas, which were purely titular, gave him no special right to practise.

"Henceforth all this will be changed. No one will be able to take the title of 'pharmacist' without having undergone an examination which will establish the capability of him who wishes to practise. This is wonderful; but the legislators have taken care not to be logical to the end. They would have been grieved not to borrow something defective from French legislation, so they judged the institution of the two classes of pharmacutists worthy to be transplanted to the other side of the channel. There are in England doubtless, as with us, two classes of people who feel the need of being attended to differently by two classes of men of different capacity. Accordingly, they have established 'pharmaceutical chemists,' who will be submitted to the major examination, and 'chemists and druggists,'

who will have only to pass the minor examination of the Pharmaceutical Society.

"These measures being taken, it would seem natural enough, that in the interest of the public health these two classes of persons should alone be authorised to prepare and retail medicines. Nothing of the kind. It has been considered sufficient to reserve to them exclusively the sale of poisonous substances. It has therefore been necessary to draw up a table of poisonous substances. As might easily be foreseen, the English have succeeded about as well as we have in their famous list. The possibility of a table of poisonous substances could not be admitted by a pharmacist whose brain is sound. In our profession everything may be a poison; it is only a matter of doses, etc. To comprise, in a table of twenty lines, all the poisonous substances of the *Materia Medica* is an attempt so absurd, that it cannot even be discussed. That, however, is what the English have attempted, no doubt, following our example; and Heaven knows how they have succeeded. They proscribe all the metallic cyanides, certainly comprising in them yellow prussiate, which, in a dose of sixty grammes, is only purgative; and in the case of salts of mercury they declare only corrosive sublimate to be poisonous. Of all the mineral and organic acids, oxalic acid is the only one mentioned; that, no doubt, is because very agreeable and inoffensive lozenges for thirst can be prepared with it. In the case of alkaloids, strychnine alone is indicated, though it is true that all the *poisonous vegetable alkaloids* are added. This really is the climax. It would not have been more ridiculous to replace the table in question by the following instructions:—

"The table of poisons annexed to the Act comprehends the substances which follow:—

"Sole article.—*All poisonous substances.*"

"Things being thus settled, the trade in medicines, even by retail, will be able to be carried on by everybody, provided that poisonous substances are not sold; and an interpoling druggist or pharmacist will not be within reach of the law, if he injures any one by the administration of a substance which does not appear in the table in question. He will be just as open to punishment as if he had attacked his customer with a stick. It is easy to see to what that may lead; the legal table containing only a very insufficient number of substances, the same dangers will exist; and if the courts of law are called on to decide which are the poisonous substances, they will have plenty of work, and a nice mess they will make of it! Our neighbours have, we do not doubt, very good lawyers; but we have them too, and every one knows how competently those questions are decided in our country!

"To avoid this confusion, it would have been much more simple to decide that only the pharmacist should be authorised to dispense medicines. That, indeed, is what everybody understands, but strangely enough, people dare not say so. It is vain to think of it, though one does not see what the liberty of commerce and the principle of free trade would have to lose by it. If the retail trade in medicines was of a nature to make the country prosperous, to equip numerous ships, to form navies, to make colonies flourish, we might look at the subject twice; but it has no such high aims; it barely serves to furnish a livelihood for a certain number of pharmacutists, and the prosperity of the country could not be compromised by the very slender monopoly which public interest could get conferred upon them. Beside these singularly weak points, we find Draco-like enactments, of which, as is just, the pharmacutists will be the first victims. They are worthy of being literally quoted:—

"The Act for preventing the adulteration of articles of food and drink shall extend to all articles usually taken or sold as medicines; and every adulteration of any such article shall be deemed an admixture injurious to health, and any person registered under this Act who sells, and such article adulterated, shall, unless the contrary be proved, be deemed to have knowledge of such adulteration.

"The Privy Council may direct the name of any person who is convicted of any offence against this Act which in their opinion renders him unfit to be on the register under this Act, to be erased from such register."

"Suppose such a law to be rigorously executed, and picture the agreeable existence of the pharmacist. Think of the poor fellow who is long past youth, and who spent his all in order to become a pharmacist, and who, for having infringed the law, will be scratched off the lists, and must embrace another profession. Now, as we all know, that after twenty years of pharmacy a man is no longer very well fitted for any other trade, he must live as he can. It is true that in England there is no lack of hospitals and workhouses.

"Let us hope that the next French law will be better; but do not let us reckon too much on it."

MODERN CHEMICAL NOTATION AND NOMENCLATURE.

BY JOHN CARGILL BROUGH, F.C.S.*

THE nomenclature proposed by Lavoisier, Guyton de Morveau, Berthollet and Fourcroy in 1787 has gradually expanded into the systematic chemical language employed at the present day. "Chemical nomenclature," says Professor G. C. Foster, "is the spoken language of chemistry, as the symbolic notation is the written language of the science. Being thus at once the product and the instrument of thought upon chemical subjects, it has necessarily, at every period in the history of the science, reflected the general intellectual character of the time as well as the stage of development which chemistry had reached."† Since the time of Lavoisier, names have had to be fitted to innumerable bodies not dreamt of in his philosophy; while names involving modern ideas of certain compounds, have displaced earlier terms inconsistent with such ideas. Those who complain of the instability of chemical nomenclature forget that new discoveries lead to modifications of theory, and that the systematic names of compounds are necessarily affected by such modifications. Leaving for a future occasion the discussion of the principles of the Lavoisierian nomenclature as extended by modern chemists, we give below a classified list of the definite chemical compounds named in the British Pharmacopœia. The modern systematic names are printed in ordinary Roman type, the pharmaceutical names in italics. When two or more modern names are applied to one substance, the name that seems to us to be most worthy of adoption is placed first. In the general formulæ given M, M', M'', M''' represent respectively univalent, bivalent, trivalent, and quadrivalent metals or radicals which can take the place of metals; thus M may stand for an atom of potassium, sodium, lithium, hydrogen, or ammonium.

CLASSIFICATION OF PHARMACEUTIC COMPOUNDS.

CHLORIDES.

Monochlorides, MCl.

Hydrochloric acid or hydrogen chloride, hydric chloride; in *acidum hydrochloricum*.

Sodium chloride, sodic chloride; *sodii chloridum*.
Ammonium chloride, ammoniac chloride; *ammonii chloridum*.
Mercurammonium chloride; *hydrargyrum ammoniatum*.

Pseudo-monoehloride.

Mercurous chloride, $Hg_2 Cl_2$; *hydrargyri subchloridum, calomel*.

Dichlorides, $M'Cl_2$.

Calcium chloride, calcic chloride; *calcii chloridum*.
Barium chloride, baric or barytic chloride; *chloride of barium*.
Zinc chloride, zincic chloride; *zinci chloridum*.
Mercuric chloride; *hydrargyri perchloridum, corrosive sublimate*.

Stannous chloride; in *solution of chloride of tin*.

Trichlorides, $M'''Cl_3$.

Auric chloride; in *solution of chloride of gold*.
Antimonious chloride or antimony trichloride; in *liquor antimonii chloridi*.

Pseudo-trichloride.

Ferric chloride, $Fe_2 Cl_6$; in *liquor ferri perchloridi*.

Tetrachloride,

Platinic chloride, $PtCl_4$; in *solution of perchloride of platinum*.

BROMIDES.

Monobromides, MBr.

Potassium bromide, potassic bromide; *potassii bromidum*.
Ammonium bromide, ammoniac bromide; *ammonii bromidum*.

IODIDES.

Moniodide.

Potassium iodide, potassic iodide, KI; *potassii iodidum*.

Pseudo-moniodides.

Mercurous iodide, $Hg_2 I_2$; *hydrargyri iodidum viride*.
Sulphurous iodide, $S_2 I_2$; *sulphuris iodidum*.

Diiiodides, $M'I_2$.

Cadmium iodide, cadmic iodide; *cadmii iodidum*.
Mercuric iodide; *hydrargyri iodidum rubrum*.
Lead iodide, plumbic iodide; *plumbi iodidum*.
Ferrous iodide; *ferri iodidum*.

CYANIDES.

Hydrocyanic acid or hydrogen cyanide, hydric cyanide, HCN; in *acidum hydrocyanicum dil.*

Double-cyanides.

Potassio-ferrous cyanide, potassic ferrocyanide, $K_4Fe(CN)_6$; *potassa prussias fava*.
Potassio-ferric cyanide, potassic ferricyanide, $K_3Fe(CN)_6$; *red prussiate of potash*.

OXIDES AND HYDRATES.

Monoxides containing univalent radicals, $M'O$.

Water or hydrogen oxide, hydric oxide; *aqua destillata*.
Argentous oxide; *argenti oxidum*.

Corresponding Hydrates, MHO .

Potassium hydrate, potassic hydrate; *potassa caustica*.
Sodium hydrate, sodic hydrate; *soda caustica*.
Ammonium hydrate, ammoniac hydrate; in *liquor ammoniac*.

Monoxides containing bivalent radicals, $M'O$.

Calcium oxide, calcic oxide; *calx*.
Magnesium oxide, magnesian oxide; *magnesia*.
Zinc oxide, zincic oxide; *zinci oxidum*.
Mercuric oxide; *hydrargyri oxidum rubrum*.
Lead oxide, plumbic oxide; *plumbi oxidum*.

Corresponding Hydrate.

Calcium hydrate, calcic hydrate, CaH_2O_2 ; *calcis hydras*.

Dioxide.

Manganese dioxide, manganic peroxide, MnO_2 ; *manganesti oxidum nigrum*.

Trioxides, $M'''O_3$.

Ferric oxide; in *ferri peroxidum humidum and hydratum*.
Antimonious oxide or antimony trioxide; *antimonii oxidum*.

Tetroxide.

Triferro-tetroxide or ferrous-ferric oxide, Fe_3O_4 ; in *ferri oxidum magneticum*.

* See May number p. 277.

† Watts's "Dictionary of Chemistry," vol. iv, p. 118.

SULPHIDES.

Monosulphides containing univalent radicals, M_2S .
Hydrogen sulphido, hydric sulphide, sulphydric or hydro-sulphuric acid; *sulphuretted hydrogen*.
Ammonium sulphide, ammoniac sulphide; in solution of sulphido of ammonium.

Monosulphide containing a bivalent radical.

Ferrous sulphide or iron monosulphide, FeS ; *sulphide of iron*.
Trisulphide.

Antimonious sulphide or antimony trisulphide, Sb_2S_3 ; *antimonium nigrum*.

Polysulphides.

Potassium trisulphide and pentasulphide, K_2S_3 and K_2S_5 ; in *potassa sulphurata*.

ACID OXIDES.

Monoxide.

Acetic oxide or acetyl oxido (C_2H_3O)₂O; referred to as *anhydrous acetic acid*.

Dioxides.

Carbon dioxide, CO_2 ; *carbonic acid gas*, employed in some of the official processes.

Sulphur dioxide, sulphurous oxide, SO_2 ; *sulphurous acid gas*.

Trioxides.

Arsenious oxide, As_2O_3 ; *acidum arseniosum*.

Sulphur trioxide, sulphuric oxide, SO_3 ; referred to as *anhydrous sulphuric acid*.

Pentoxides.

Nitrogen pentoxide, N_2O_5 ; referred to as *anhydrous nitric acid*.

Phosphorus pentoxide, phosphoric oxide, P_2O_5 ; referred to as *anhydrous phosphoric acid*.

OXYGEN SALTS, including ACIDS.

NITRITE.

Nitrons acid or hydrogen nitrite HNO_2 ; not official.

Ethyl nitrite, ethylic nitrite, $C_2H_5.NO_2$; in *spiritus ætheris nitrosi*.

NITRATES.

Containing univalent radicals, MNO_3 .

Nitric acid or hydrogen nitrate, hydric nitrate; in *acidum nitricum*.

Potassium nitrate, potassic nitrate; *potassæ nitras*.

Sodium nitrate, sodic nitrate; *sodæ nitras*.

Silver nitrate, argentic nitrate; *argenti nitras*.

Containing bivalent radicals $M''(NO_3)_2$.

Mercuric nitrate; in *liquor hydrargyri nitratis acidus*.

Lead nitrate, plumbic nitrate; *plumbi nitras*.

Containing a trivalent radical.

Ferric nitrate, $Fe(NO_3)_3$; in *liquor ferri perchloridi*.

Basic nitrate.

Bismuthous dihydrato-nitrate, $Bi(HO)_2NO_3$; *bismuthi sub-nitras*.

BORATES.

Boric acid or hydrogen borate, hydric borate HBO_2 ; combined with H_2O in *boracic acid*.

Anhydroborate.

Sodium anhydroborate or baborate, $2NaBO_2.B_2O_3$; *borax*.

HYPOCHLORITES.

Hypochlorous acid or hydrogen hypochlorite, $HClO$; not official.

Sodium hypochlorite, sodic hypochlorite; formed in preparing *liq. sodæ chlorate*.

Calcium hypochlorite, calcic hypochlorite, $Ca(ClO)_2$; in *calx chlorata*.

CHLORATES.

Chloric acid or hydrogen chlorate, $HClO_3$; not official.

Potassium chlorate, potassic chlorate; *potassæ chloras*.

IODATES.

Iodic acid or hydrogen iodate, HIO_3 ; not official.

Potassium iodate, potassic iodate; in solution of iodate of *potash*.

ACETATES.

Containing univalent radicals $MC_2H_3O_2$.

Acetic acid or hydrogen acetate, hydric acetate; in *acidum aceticum*.

Potassium acetate, potassic acetate; *potassæ acetas*.

Sodium acetate, sodic acetate; *sodæ acetas*.

Ammonium acetate, ammoniac acetate; in *liquor ammoniæ acetalis*.

Containing bivalent radicals, $M''(C_2H_3O_2)_2$.

Zinc acetate, zincic acetate; *zinci acetas*.

Copper acetate, cupric acetate; in solution of acetate of copper.

Lead acetate, plumbic acetate; *plumbi acetas*.

Basic Acetates.

Diplumbic oxidi-acetate $Pb_2O(C_2H_3O_2)_2$; in *liquor plumbi subacetalis*.

The subacetate of copper of commerce is a mixture of several basic cupric acetates.

BENZOATES.

Benzoic acid or hydrogen benzoate, $HC_7H_5O_2$; *acidum benzoicum*.

Ammonium benzoate, ammoniac benzoate; *ammoniæ benzous*.

VALERATES.

Valeric or valerianic acid, hydrogen valerate, $HC_5H_9O_2$; not official.

Sodium valerate, sodic valerate; *sodæ valerianas*.

Zinc valerate, zincic valerate $Ca(C_5H_9O_2)_2$; *zinci valerianas*.

SULPHITE.

Sulphurous acid or hydrogen sulphite, H_2SO_3 ; in *acidum sulphurosum*.

SULPHATES.

Containing univalent radicals, M_2SO_4 .

Sulphuric acid or hydrogen sulphate, hydric sulphate; *acidum sulphuricum*.

Potassium sulphate, potassic sulphate; *potassæ sulphas*.

Sodium sulphate, sodic sulphate; *sodæ sulphas*.

Containing bivalent radicals, $M''SO_4$.

Calcium sulphate, calcic sulphate; *plaster of Paris*.

Magnesium sulphate, magnesic sulphate; *magnesiæ sulphas*.

Zinc sulphate, zincic sulphate; *zinci sulphas*.

Cupric sulphate; *cupri sulphas*.

Mercuric sulphate; *hydrargyric sulphas*.

Ferrous sulphate; *ferri sulphas*.

Containing a trivalent radical.

Ferric sulphate $Fe_2(SO_4)_3$; in *liquor ferri persulphatis*.

Double sulphate.

Ammonio-aluminic sulphate, $NH_4Al(SO_4)_2$; *alumen*.

HYPOSULPHITES.

Hyposulphurous acid or hydrogen hyposulphite $H_2S_2O_3$; not official.

Sodium hyposulphite, sodic hyposulphite; *hyposulphite of soda*.

PERMANGANATES.

Permanganic acid or hydrogen permanganate $H_2Mn_2O_8$; not official.

Potassium permanganate, potassic permanganate; *potassæ permanganas*.

CHROMATES.

Chromic acid or hydrogen chromate, H_2CrO_4 ; not official.

ANHYDROCHROMATE.

Potassium anhydrochromate or bichromate, $K_2CrO_4.CrO_3$; *potassæ bichromas*.

CARBONATES.

Containing univalent radicals, M_2CO_3 .

Carbonic acid or hydrogen carbonate; formed when carbon dioxide is dissolved in water.

Potassium carbonate, potassic carbonate; *potassæ carbonas*.

Sodium carbonate, sodic carbonate *sodæ carbonas*.

Lithium carbonate, lithic carbonate; *lithiæ carbonas*.

Corresponding acid salts, MHCO_3 .

Hydro-potassic carbonate or acid potassium carbonate; *potassæ bicarbonas*.

Hydro-sodic carbonate or acid sodium carbonate; *sodæ bicarbonas*.

Abnormal acid salt.

Tetrammonio-dihydric carbonate, $(\text{NH}_4)_2\text{H}_2(\text{CO}_3)^*$; *ammonia carbonas*.

Containing bivalent radicals, $\text{M}''\text{CO}_3$.

Calcium carbonate, calcic carbonate; *calcis carbonas*.

Ferrous carbonate; in *ferri carbonas saccharata*.

Basic carbonates.

The basic carbonates of magnesium, zinc, bismuth and lead (*magnesiæ carbonas*, *zinci carb.*, *bismuthi carb.*, and *plumbi carb.*) may be viewed as compounds of normal carbonates with metallic oxides or hydrates. Their formulæ need revision.

OXALATES.

Oxalic acid or hydrogen oxalate $\text{H}_2\text{C}_2\text{O}_4$; *oxalic acid*.

Ammonium oxalate, ammonic oxalate; *oxalate of ammonia*.

Cerium oxalate, ceric oxalate, CeC_2O_4 ; *cerii oxalas*.

TARTRATES.

Containing univalent radicals, $\text{M}'\text{C}_2\text{H}_3\text{O}_6$.

Tartaric acid or hydrogen tartrate, hydric tartrate; *acidum tartaricum*.

Potassium tartrate, potassic tartrate; *potassæ tartras*.

Corresponding acid and double salts.

Hydro-potassic tartrate, $\text{KHC}_2\text{H}_3\text{O}_6$; *potassæ tartras acida*.

Sodio-potassic tartrate, $\text{NaKC}_2\text{H}_3\text{O}_6$; *soda tartarata*.

Basic double salts.

Potassio-ferric oxi-tartrate, $\text{KFeOC}_2\text{H}_3\text{O}_6$; the essential part of *ferrum tartaratum*.

Potassio-antimonious oxi-tartrate; *antimonium tartaratum*.

PHOSPHATES.

Containing univalent radicals.

Phosphoric or orthophosphoric acid, trihydric phosphate, H_3PO_4 ; in *acidum phosphoricum dil.*

Disodic phosphate, Na_2HPO_4 ; *sodæ phosphas*.

Diammonic phosphate; *ammonic phosphas*.

Containing bivalent radicals.

Calcium phosphate, calcic phosphate, $\text{Ca}_3(\text{PO}_4)_2$; *calcis phosphas*.

Ferrous phosphate; *ferri phosphas*.

ARSENATES.

Arsenic acid or trihydric arsenate H_3AsO_4 ; not official.

Disodic arsenate, Na_2HASO_4 ; *sodæ arsenias*.

Ferrous arsenate $\text{Fe}_2(\text{AsO}_4)_2$; *ferri arsenias*.

CITRATES.

Containing univalent radicals $\text{M}'\text{C}_6\text{H}_7\text{O}_7$.

Citric acid or trihydric citrate; *acidum citricum*.

Ammonium citrate, ammonic citrate; in *liquor ammoniæ citratis*.

Potassium citrate, potassic citrate; *potassæ citras*.

Lithium citrate, lithic citrate; *lithiæ citras*.

Double Salts.

The formulæ of the scale citrates (*ferri et ammoniæ citras* and *ferri et quiniæ citras*) have not been satisfactorily determined.

ALCOHOLS and ETHERS.

Monatomic.

Ethyl alcohol, ethylic alcohol, $\text{C}_2\text{H}_5\text{HO}$; in *spiritus rectificatus*.

Ethyl oxide or ethylic ether ($\text{C}_2\text{H}_5\text{O}$); *æther purus*.

Amyl alcohol, amylic alcohol, $\text{C}_5\text{H}_{11}\text{HO}$; in *alcohol amylicum*.

Phenol or phenyl alcohol, $\text{C}_6\text{H}_5\text{HO}$; *acidum carboolicum*.

Triatomic.

Glycerin or propenyl alcohol, $\text{C}_3\text{H}_5(\text{HO})_3$; *glycerinum*.

* * * From the above list of compounds we have excluded the alkaloids and their salts, and a few other products which could not be conveniently classified.

* According to the new edition of "Fownes;" it differs from the *B.P.* formula by $+ \text{H}_2\text{O}$.

THE SULPHUR CURE.

THE system of treating disease by the application of sulphurous acid, either in a gaseous or liquid state, which has, during the past two years, caused a considerable amount of discussion among the members of the medical profession, more especially on the north of the Tweed, will probably be more generally tested this winter by English as well as Scotch and Irish practitioners. We have not generally much sympathy with the drug-proving experiments which have become the professional means of advertisement—the ladders by which many shrewd practitioners have been able to raise their heads above their fellows and command the attention of the guinea-paying public; but we confess to something more than a partiality towards Dr. Dewar's treatment of certain diseases by the fumigation of sulphur. Whether from old associations (in connection with treacle), or from less sentimental reasons, we are hardly sure; but we have always held fast to the popular faith in brimstone as a curative agent, and we see no reason why sulphur should not be introduced into the system as well through the pores of the skin, and with the breath, as in a solid form down the throat, in defiance of the objection of the palate to the latter process. We have, therefore, a wish to see the treatment still more generally tried throughout this country, and a most earnest hope that it may prove, as Dr. Dewar confidently anticipates, of much service in combating with our national foe—consumption—as well as in relieving us from the dangers of the epidemic diseases, to which it was first applied. We shall endeavour to present Dr. Dewar's theory and practice to our readers by compiling and condensing from his own very clearly-written pamphlet on the subject a short *resumé* of the same.

It has been proved by observation in many cases, and is probable from analogy in others, that many organic diseases originated from a parasitic growth. Ulcerated wounds and chilblains show this; and it certainly seems the most reasonable theory to account for the spread of contagious diseases, as we can then form something like a conclusion as to the nature of the "it," when we are told "it's in the air." Now it is a step beyond theory to assert that, if this be so, sulphurous acid will arrest the development of these poisonous fungi, and thus, in very deed, strike at the root of the disease. The effect of very minute quantities of sulphurous acid in preventing this parasitic growth is well exemplified by the process for the preservation of lime-juice noticed in another column. Sulphurous acid, in the form of bisulphite of lime, has been used also, with very great success, for the preservation of fresh meat from putrefaction, on long voyages, and by brewers for the preservation of their ales. Messrs. Medlock, and Bailey, of Wolverhampton, have patented a process for its use. These facts are adduced merely to show the power which the acid possesses as an antiseptic. Dr. Dewar first commenced his experiments during the Cattle Plague, and he intimates that, as far as these went, they were thoroughly successful, though the "stamping-out" process had proceeded too far to admit of very extensive trial. He has also found it most valuable in other diseases of oxen, horses, and sheep, and would treat all animals, human and inferior, to periodic fumigation, much as Mrs. Squeers was in the habit of dosing the young gentlemen at Dothoboy's Hall with the older-fashioned fonn of the same remedy. The plan of treatment with cattle was simply this:—first, to see that a reasonable ventilation was provided, in the shed or stable, then, to place a piece of sulphur, about the size of a man's thumb, in a crucible, placed in a chaffeur two-thirds full of red-hot cinders. This will be

sufficient to fill a good sized space with sulphur fumes, and will burn for about twenty minutes. According to Dr. Dewar, the result of this treatment, where it is practised, is "a blooming condition," both for healthy or diseased animals, in which good effect the attendants are likely to share. For human invalids, this system is somewhat modified. A kitchen shovel, with red-hot cinders in it, is placed on a stool in the middle of the apartment, and a little flour of sulphur sprinkled over them. Sulphurous acid gas at once fills the room, the quantity of which may be regulated by opening the door or window, and the supply at once checked by putting the shovel under the chimney. Such is the very simple, perfectly harmless, certainly healthful, and, probably, valuable treatment, by which sulphurous acid gas is applied to the system for the purpose of stopping that fungoid growth to which, as we have intimated, much disease may be referable. For local application, as in diphtheria, the acid is used in a liquid form, and in the form of spray, produced by an instrument which acts like the perfume odorators, with which all chemists are familiar. The apparatus recommended by Dr. Dewar and manufactured by Mr. Storrar of Kirkcaldy, will be found fully described in the January number of this journal. The sulphur pastilles introduced, we believe, by Messrs. Duncan and Flockhart, of Edinburgh, offer a very elegant and pleasant form for the production and inhalation of sulphur fumes. Messrs. Bailey and Son, of Wolverhampton, have also devoted a good deal of care to the production of pure sulphurous acid, sulphur pastilles, and all the accessories of the "cure," evidently anticipating a considerable sale to arise when its merits are more widely known.

The following paragraph is worth quoting entire, and we hope some trial will be made of the recipe for "Chilblain Liniment" which it contains, of the results of the use of which we shall be glad to have information:—

"Mr. —, somewhat elderly, who has long discharged the duties of cashier in a large establishment in this neighbourhood, asked me some months ago what he should do with his hands, which were positively so covered with chilblains as to render his work very burdensome to him. He had all his life been subject to them, but he said that now, even in summer, he was scarcely clear of them—the tendency to swelling never altogether disappearing. His hands were unshapely and much swollen, the skin being livid and very unhealthy. Fumigation gave him some relief, but he used at the same time a lotion composed of one part sulphurous acid, one part glycerine, and two water, three or four times a day. His improvement was rapid, the bad features quickly giving place to freedom from pain and restoration of power over the fingers. The case was rendered complete by *desquamation of the entire cuticle*, leaving the hands unexceptionable as to appearance, and hitherto quite easily preserved from any recurrence of the ailment."

Dr. Dewar also gives the following useful hint:—

"Sulphurous acid is the best of all dressings for 'sore nipples,' one soaking of pure acid generally effecting a cure, and it does not harm the child."

It is no doubt superfluous, though it can do no harm, to mention here, that sulphurous acid is a very different preparation from sulphuric acid. That such precautions are not wholly unnecessary, the following case will illustrate. In this instance, however, it is not an "ignorant druggist's blunder," but a qualified medical practitioner's error of judgment. A patient, who fretted under the continuance of a sore throat, urged the doctor to try fumigation, to which at first he was strongly opposed; but at last, "wearied by importunity," he consented to make a trial of it. Sulphur pastilles had just been devised, and this in-

genious man stuck one of these into a pen-holder, set fire to it, and applied the *burning substance to the patient's throat*. Is there any matter for surprise, that the instantaneous relief often experienced did not result here, or that the case was pronounced one of failure? We shall not lengthen this paper by the recital of cases, as we do not profess to know much of the sulphur cure beyond what Dr. Dewar has written, though we are acquainted with at least one instance where it has been tried with good results. The Doctor has probably ridden his hobby a little beyond its strength, as he makes sulphur a speciality for nearly every disease, internal and external. Over fevers, phthisis, diphtheria, and certain skin affections, it would be expected, however, to exert the greatest influence, and it is in these directions that his experiments have been most generally made. We sincerely hope he has discovered in this most accessible element the long-wished-for *elixir vitæ*; but in this, as in all other remedies, we may be sure that time and experience will place it in its true value, which can never be affected permanently either by enthusiastic praises on the one hand, nor by professional contempt on the other.

Pharmaceutical Society of Great Britain.

EVENING MEETING.

December 2, 1868.*

Mr. MORSON in the Chair.

THE minutes of the preceding meeting having been read and confirmed, and donations to the Library and Museum acknowledged,

The PRESIDENT drew attention to a variety of plasters containing carbolic acid on the table, remarking on the difficulty of their preparation. A paper was then read

ON CARBOLIC ACID PLASTER. BY WILLIAM MARTINDALE.

The author—referring to Professor Lister's "Antiseptic System of Treatment in Surgery," based on Pasteur's experiments on the destructive action of carbolic acid on the germs of fermentation and putrefaction, and dependent on the exclusion of air, and the destruction of any germs of organisms which might obtain access, by a constant supply of carbolic acid in the state of vapours—proceeded to describe the various dressings employed by Professor Lister. A carbolic-acid putty having failed, Professor Lister next tried a carbolic-acid plaster, made by mixing *emplastrum plumbi* with one-fourth of beeswax and carbolic acid in the proportion of one-tenth of the whole. But this plaster proving too soft, he at length found that by increasing the proportion of litharge the lead-soap might be made to any degree of firmness, provided the use of water be excluded. Fortunately this could be dispensed with, as if litharge be used in about four times the pharmacopœial proportion, combination proceeds rapidly under a brisk heat, without the use of water. Upon this fact a method of manufacture was based, of which the author gave the details, recommending that such plasters should be labelled "lead plasters." Even this plaster did not give such satisfaction as his lac-plaster, of the manufacture of which the author also gave the details. This plaster is made by melting carbolic acid with twice its weight of shellac, and covering it with a thin coating of gutta-percha, through which the carbolic acid permeates. It has this great advantage over the antiseptic lead plaster, that it cannot be softened by a watery or an oily fluid.

* Reported specially for this journal.

Mr. HILLS asked whether much carbolic acid was driven off in making the plasters, to which the author replied in the negative.

Dr. ATTFIELD asked whether the author had had any experience as to how long the carbolic-acid plasters would keep.

The author said that he had not had occasion to keep any specimen more than a month or so, but he believed they would keep a considerable time; certainly the gutta-percha did not arrest the evaporation of the carbolic acid, as it might be detected by the smell.

A paper

ON LIQUOR OPII SEDATIVES, BY T. D. GROVES, F.C.S.,

was then read. Mr. Groves gave the results of a microscopic examination of *Liquor Opii Sedativus* prepared in various manners, showing that proof spirit dissolves more meconic acid, narcotine, and narceine than does a similar bulk of pure water, and that *Liquor Opii*, made by evaporating landanum with water, filtering off the matter thrown out of solution, and adding spirit, gave a microscopic figure far inferior to Battley's. He proceeded to give the results of an estimation of the amount of ash in the residuo of the several specimens. A consideration of these results suggested some experiments which ultimately led him to recommend the following formula for a *Liquor Opii* of the same strength as the *Linctura Opii B.P.* :—

Take of powdered opium.....	1½ oz.
Prepared chalk	0¼ „
Rect. spirit	5 fl. oz.
Dist. water, a sufficiency.	

Boil gently for half an hour the opium and chalk with one part distilled water, filter and wash up to fifteen ounces and add the spirit. After a few days' repose filter again. It improves much by being kept. Of course, the finer the opium the better the liquor. The narcotine may be recovered by boiling the opium with water alone, adding the chalk subsequently, and extracting the narcotine from the dried chalk by boiling with rectified spirit of wine.

The PRESIDENT said the subject was a peculiar one. As the author had remarked, much depended on the quality of the opium. Egyptian opiums were now in the market which contained no more than half an ounce of morphia to the pound, and Smyrna opiums, which contained two ounces. Of course, with such different samples widely different results must be expected, and any process not based essentially on the quality of the opium would be imperfect. He expressed his opinion that Battley's liquor was a simple extract or solution of opium evaporated, dissolved, and redissolved, and hence obtained free from narcotine and resinous matter. The great difficulty was to get opium of a constant quality. Opium had been made in Australia, of good appearance and odour, containing much narcotine, narceine, and other principles, yet not one-fourth the right amount of morphia. They say in the East that the weather has some influence, which was a difficulty they hoped to overcome.

Mr. C. H. Wood said, that in pursuance of an idea thrown out by Dr. Redwood, and partially worked out by him, he (Mr. Wood) had tried some experiments on a dialytic method of obtaining a solution of opium free from resinous matters, etc. He had obtained a solution which gave a better crystallisation than any other method he had been able to adopt. The improvement was possibly due to the less subjection to heat involved in the process. He simply used a large dialysis, changed the water forming the diffusate several times, evaporated it to a thin syrup, tested its composition analytically, and diluted accordingly.

Dr. ATTFIELD said the question was, what part of the

opium it was wished to retain, and what eliminate in this sedative solution. Dialysis admitted crystalline principles other than those of morphia and its salts; if it was wished to include those only, then Mr. Wood's process was of value; if morphia was the only principle required, then the sooner we did away with *Liquor Opii Sedativus* the better, and use morphia alone. So long as we were not clear as to the principle of the process, we should necessarily differ in opinion regarding the process itself.

Mr. HASELDEN seconded the President's opinion as to the method by which Battley's preparation was made, and suggested further, that when digesting it should be well disintegrated. As to the qualities of opium, much depended on soil and climate.

Dr. REDWOOD confirmed Mr. Wood's statement that he made experiments as to how far dialysis might be applicable in purifying extracts, but, excepting in the case of opium, the experiments had not been favourable. In the employment of parchment or bladder in dialysis, a very dilute aqueous solution must be used, so that decomposition set up before sufficient time had been allowed for the operation. In the case of cinchona he had expected a satisfactory result, but he had signally failed, as no alkaloids could be detected in the diffusate by the ordinary tests. He would not, however, discourage others; he had, perhaps, given the matter up too readily. As to the quality of the opium, its variations applied equally to the tincture and the extract. He did not consider that a solution containing a certain quantity of morphia was wanted, but one that would exercise the proper sedative effects.

A paper was then read

ON METALLIC BISMUTH. BY C. H. WOOD.

The author adverted to the discussion which has taken place in the *Pharmaceutical Journal* on the Pharmacopœia process for preparing *Liq. Bismuthi et Ammonia Citratus*, and stated that the issues mainly depended on the nature and amount of the impurities present in commercial bismuth, and the efficiency of the nitre process in removing them.

He had satisfied himself that arsenic, antimony, and sulphur were completely removed in the purification of the metal; and pointed out that Mr. Schacht's experiments proved the possibility of so eliminating the whole of the arsenic.

Mr. Wood was compelled to admit, however, that the nitre failed to remove very small quantities of copper, and it therefore became a matter of some interest to ascertain the exact percentage of copper contained in metallic bismuth. He had analysed three samples of ordinary Saxony metal, and he found the proportion of copper to range from 0.1 to 0.05 per cent. Although he admitted that all commercial bismuth contained these minute quantities of copper, and that the nitre process fails to remove them, he believed a perfectly pure metal could be obtained directly the demand for it arose. In 1865, Messrs. Johnson and Matthey exhibited in Dublin some chemically pure bismuth, in large quantity, and this metal the makers are prepared to manufacture and supply now, if required. Its price would be 40s. per lb., that of ordinary commercial bismuth being 19s., and the doubly refined 22s. 6d.

Mr. WATSON had encountered the same difficulty as Mr. Wood as to the copper. Traces of copper could not be removed by fusion, but by the formation of trisnitrate and subsequent reduction. He had seen Australian bismuth offered for sale containing copper, arsenic, antimony, iron, and only 52.5 per cent. of bismuth.

Dr. ATTFIELD was sorry to notice that so much was made

of the difficulty in the elimination of copper. Arsenic seemed of secondary consequence to some commercially disposed men, as it was only a poison. Copper, however, was a serious contamination, not as a poison, but in consequence of its blue colour. Did the traces of copper mentioned by Mr. Wood and Mr. Watson give a decided blue colour?

The President said that another point to some men was that of cost. The best plan was to crystallise the tris-nitrate, the impurities being nearly all removed in the mother liquor, or entirely eliminated if the nitrate was decomposed by water. He understood that some of the rarest metals were present in bismuth ores. Saxony bismuth was said to be the best, but the Government there had taken to purchasing inferior Australian ores.

Mr. WATSON, referring to Dr. Attfield's inquiry as to the blue colours, said that 0.01 per cent. of copper was quite perceptible after the addition of ammonia. He would second the President's remarks as to cost. Many druggists would not pay thirty or forty shillings.

Mr. WOOD said that the colour depended on the method of making the liquor. An excess of NH_3 caused a perceptible tinge of colours; but such an excess was not necessary, as it might be neutralised by citric acid. Cost was the chief thing, but he did not see why that should interfere when liquor bismuthi was sold at 3s. a pint.

The next paper read was a communication from M. BOUILHOW,

ON THYMIC AS A SUBSTITUTE FOR PHENIC ACID.

M. Bouilhow finds in the disagreeable and repulsive smell of creosote and phenic acid a reason for the small extent to which it has been used in medicine. As an odontalgic the use of creosote is deferred until nearly too late for any benefit to be received from its application. To the inconsiderate demand of a now scientific public for an inodorous or less odorous creosote, M. Bouilhow has replied by the introduction of thymic acid as a substitute.

Thymic acid, as indicated by Gerhardt, is a homologue of phenic acid, but unlike phenic acid and other members of the same homologous series, it has no offensive smell. It agrees with the general formula of the phenols ($\text{C}_n\text{H}_{n-6}\text{O}_2$ *) its composition being indicated by the formula $\text{C}_{20}\text{H}_{14}\text{O}_2$. The formula of phenol or phenic acid is $\text{C}_6\text{H}_6\text{O}_2$, that of cresylic acid $\text{C}_{14}\text{H}_8\text{O}_2$.

Thymic acid is obtained by treating oil of thyme with an aqueous solution of potash or soda, decomposing the soluble thymate of potash or soda with an acid and purifying the thymic acid thus produced by washing, drying, and finally by distillation.

Its weak, agreeable odour and antiseptic properties give thymic acid a peculiar value as a substitute for phenic acid. Experiments as to its value medicinally gave such satisfactory results, that M. Bouilhow was induced to persevere in his researches, in which he was assisted by Dr. Paquet and others. The result was that a communication, presented to the Anatomical Society of Paris last December, confirmed the idea of its antiseptic properties, and led to the hope that ere long thymic acid will altogether replace phenic acid and creosote.

Dr. ATTFIELD commended the international good feeling which prompted M. Bouilhow's communication. But he would ask where any large quantities of oil of thyme could be derived? When we consider that thyme yielded only sixty drops to the pound, and the other sources even less, and that these quantities must be further reduced by the amount of hydro-carbon they contain to half the quantity, we might

well ask the author to point out from what source he would derive his supply of thymic acid.

Dr. REDWOOD would not discourage the search for a substitute for carbolic acid. Even admitting that it would be difficult to obtain a sufficient supply of oil of thyme in this country, we must not be at all sure that we could not obtain a sufficiency from abroad. He applied to Mr. Hanbury for information as to the supply of oil of thyme from the West Indies.

Mr. HANBURY said he concurred with Dr. Attfield that all the thyme in the world would not supply the whole demand, but he thought that a sufficiency might be obtained for medicinal wants. Oil of thyme is produced to a considerable extent in the south of France, and in the West Indies.

The next meeting was announced to take place on Wednesday, January 6th.

Pharmacy and Therapeutics.

SULPHO-CARBOLATE OF ZINC.

SINCE the beginning of the year Mr. John Wood, of King's College Hospital, has used extensively the "sulpho-carbolate of zinc" which he says was first manufactured at his suggestion. From a report in the *Lancet*, of Saturday, we derive the following particulars. The sulpho-carbolate of zinc is said to be a definite crystallisable compound of the sulphate of zinc and the carbolate of zinc. Its formula is, according to an analysis made by Professor Bloxam, of King's College: $\text{C}^{12} \text{H}^1 \text{Zn} \text{O}^2, 2 \text{SO}^3 + \text{Aq.}$ * Its most perfect crystalline form is right rhombic plates, of a flesh colour; and its more common form, as supplied by the maker, is in agglomerated amorphous masses of a pinkish-white colour. It is very soluble in water, and gives off no smell of carbolic acid whatever, either in the solid form or in solution. This salt, in aqueous solution of from three to six grains to the ounce, Mr. Wood has found of great service in all cases to which the use of carbolic acid is applicable as a dressing for wounds. It appears to combine all the astringent and detergent properties of the sulphate of zinc with the peculiar antiseptic and antipurulent properties of carbolic acid, and possesses the additional advantage of giving off the carbolic acid, in measure and gradually, by a slow decomposition of the salt, under the chemical influence of the discharges. In cases of gonorrhoea, Mr. Wood uses it from the very beginning of the symptoms as a solution of three grains to the ounce, frequently and copiously applied by means of a syringe. As the case advances or proves refractory, the strength of the injection is increased to five grains. The effect upon the purulent nature of the discharge is immediate and marked. At once it diminishes the quantity, and renders more transparent and mucus-like the quality of the flow. In recent cases, treated from the first and properly attended to, it rarely fails to complete the cure in a fortnight or three weeks. In cases which have been neglected previously to the adoption of this treatment, and in chronic cases of gleet, the duration of the treatment has been longer; and in some, accompanied by constitutional cachexia, or interrupted by inflammatory action in the neck of the bladder, it has, while employed, kept in check the discharge, but failed to suppress it entirely. In some the discharge has returned directly upon the remission of the injection, and upon its resumption has again nearly entirely ceased. Orchitis or bladder symptoms have not occurred, in the cases in which it has been employed, in as great a proportion as in those treated by internal remedies or left without active treatment. As an application to herpetic and suppurating soft chancre it is equally effective as an antipurulent agent, and, combined with the administration of iodide of potassium, a speedy healing of the sore has

* This formula is expressed according to the old system of notation. The modern formula is $\text{Zn}(\text{C}_6\text{H}_5\text{SO}_3)_2$, and the modern name of the salt is zinc sulphophenate. Sulphophenic acid is a definite compound.—Ed. C. & D.

followed. In these cases, and also in those of hard chancre, Mr. Wood has employed the *strong carbolic acid* as an escharotic in the early stages, and approves highly of the results obtained. He has also used the strong undiluted acid with the same purpose as a subcutaneous injection in *nævi materni*, with unvarying success. Its action in such cases is prompt and efficacious in destroying all the tissues with which it is brought into immediate contact. It is at the same time very manageable, and leaves a dry eschar *without any suppuration*, and which, when it falls off like a scab, leaves a cicatrized surface beneath. In efficacy, manageability, cleanliness, and rapidity of results, it is, in these cases, infinitely superior to any other escharotic that has been tried. Mr. Wood has found it efficacious also as an escharotic injection in cancerous nodules of the skin and subcutaneous structures, causing them to shrivel and dry up.

The solution of the sulpho-carbolate of zinc has been extensively used as a dressing to wounds and sores in the practice of Mr. Wood. It removes all odour as promptly as the carbolic lotion, while it is less irritating, more detergent, has no smell, and as effectively prevents all fungoid or sporular formations in moist dressings during hot weather as the carbolic acid itself.

BROMIDE OF POTASSIUM IN THE NURSERY.

SCARCELY any modern remedy has enjoyed such favour among practitioners, and been the subject of such extensive research, as bromide of potassium. Its effects have been vaunted in a considerable number of maladies where it is necessary to exert a sedative action upon the nervous system—for instance, epilepsy, croup, headache, etc. M. Moutard-Martin, a nosocomial physician of Paris, now informs us that it has proved a most useful remedy in his hands for combating certain infantile diseases, and has been of especial service in producing a condition of tranquillity in children who are much agitated by disease, and in procuring rest to infants who are deprived of sleep. The suffering which some children undergo from want of sleep, even when not otherwise ill, and the distress to which they put their nurses or parents, are so great, that any remedy having, like the one in question, the property of inducing needful repose must be most welcome both to practitioners and parents. M. Moutard-Martin states that when every other remedy—such as the warm bath, orange-flower water, and the infusion of cherry—has failed in such cases, the bromide of potassium has given the most remarkable results. There are also other cases in which its employment is very valuable in infantile therapeutics. The nervous erythism which attends dentition, and which manifests itself by a condition of excitement, cough, and sleeplessness, is often abated by the employment of the medicament; and M. Moutard-Martin is confident that its timely and proper use may even ward off attacks of convulsions. In many cases its action is very prompt and decisive. It should be administered to very young children in weak doses of from five to twenty centigrammes, and should be withheld in cases of diarrhoea.—*Lancet*.

Dentistry.

NITROUS OXIDE AS AN ANÆSTHETIC.

A PRELIMINARY Report of the Joint Committee appointed by the Odontological Society of Great Britain and the Committee of Management of the Dental Hospital of London to inquire into the Value and Advantages of the Protoxide of Nitrogen as an Anæsthetic in Surgical Operations, was presented by Mr. W. A. Harrison, Chairman of the Committee, at a crowded meeting of the Odontological Society on Monday evening. The following digest of the Report appears in the *British Medical Journal* of Saturday last:—

"The Committee, after paying a just tribute to the great service done by Dr. Evans in introducing the gas successfully as an anæsthetic into the country, proceed, in the first place, to consider in detail how far nitrous oxide gas is an efficient anæsthetic. To ascertain this, experiments upon various lower animals were instituted. From these, they

arrived at the conclusion that it was free from atmospheric air, a powerful anæsthetic, more rapid in its action, although more evanescent, than chloroform and other anæsthetics; and that although, if pushed, it produced death, still the animals were often speedily brought round, when apparently dead, by the admission of air.

"They next proceeded to arrive, if possible, at the conclusion whether it was as safe or safer, as an anæsthetic in man, than those in general use. To this they give a guarded answer for the present; stating, however, that it is at least as safe, for short operations, as any other anæsthetic.

"They next enumerate the conclusions arrived at, founded on 1,380 cases watched and carefully reported on by the various members of the Committee, and on 1,041 reported to them on trustworthy authority, as to the advantages and disadvantages of the gas. The advantages are, shortly, these: the rapidity of its effects in producing anæsthesia, the shortest time being twenty-five seconds; rapidity in recovery; its agreeable nature; its being tasteless and less irritating; almost entire freedom from nausea and vomiting, occurring in less than 1 per cent; absence of headache and vertigo, as a general rule, after complete recovery from the anæsthesia. The disadvantages are noted as consisting in its unsuitableness for long operations, on account of the rapidity of recovery; the difficulty of making and transporting the gas, and also the expense of the agent; its being troublesome to make, and requiring unusually complicated apparatus in its administration; in the undesirability of quick recovery in operations followed by much pain; in the administration being occasionally accompanied by twitchings which render it unsuitable for delicate operations.

"The Committee next took up the physiology of its action, with the views to obviate, if possible, any serious results which might follow in its administration. They confess they are as yet unable to explain the *rationale* of its action; but recommend, from experience with lower animals, that when dangerous symptoms appear, the exhibition be at once suspended, and, should respiration not take place, artificial respiration be resorted to.

"The Committee recommend, as the best, most convenient, and cheapest method of procuring the gas in a pure state, the plan of Messrs. John Bell and Co. In its administration, they observe that, whatever instrument is employed, it ought to be as air-tight as possible; but they offer nothing fresh, of importance, in this respect, or in the mode of administration. There are, however, a quantity of useful practical details given of considerable interest.

"As regards the question, whether there are any special conditions of the system contraindicating its use, they can only say that they have administered it in persons in various stages of pregnancy, in sneaking women, in persons subject to asthma, epilepsy, and the like, without any deleterious effects. They, however, advise caution, especially in those affected by disease of the heart, vessels, or lungs. They conclude by drawing the attention of the profession to the success attending the anæsthetic in America by Dr. Colton, and in France by Dr. Evans; and observe that they propose to prosecute further experiments on the subject, which they hope to lay before the profession at some future time. An appendix of interesting cases is attached to the Report."

We understand that Mr. Porter, an assistant in the laboratory of Messrs. J. Bell and Co., has devised a most ingenious method for regulating the temperature in producing nitrous oxide gas. As the temperature increases, the consequent increase of pressure is employed to force water up a tube, so as to raise a float which, by means of a lever, gradually shuts off the supply of gas. The gas is never extinguished; but when it needs attention, or when the bag or gasometer employed to collect the gas is filled, a shrill whistle is blown to give alarm.

POLISHING WHEELS FOR DENTAL INSTRUMENTS.

A CORRESPONDENT of the *American Dental Cosmos* describes a method of making polishing wheels for small steel instruments as follows:—

"Take a piece of sole leather of a size suitable for the desired wheel, make a hole through the centre and attach it to the lathe in the same manner as a corundum or cotton

polishing wheel; then with a sharp chisel turn it down to the size desired; coat the face of it with glue, and apply as much coarse emery as the glue can be made to take; put it aside to dry, and you have polishing wheel No. 1. Make another in the same way, only using flour of emery instead of the coarse, for No. 2. Form a third wheel in the same manner, but instead of the glue and emery, apply crocus with water, for No. 3. The wheels I use are about an inch and a half in diameter, but may be of any size convenient to the latho, and by fastening several of these together with common shoe pegs will give any thickness desired.

"The labour of polishing is diminished by turning little grooves into the face of my wheel before applying the emery.

"An excellent wheel for carrying the pumice, in polishing vulcanite can be formed by fastening together two of these leather wheels with brass screws (common wood screws), between which are three or four thicknesses of woollen cloth cut somewhat larger than the leathers. This woollen cloth carries the pumice better than anything I have yet found. When it becomes worn down to the leather, it can be removed by taking out the screws, and new cloth substituted. The leather keeps the wheel stiff and firm, and, as the cloth becomes worn down, will not scratch the plate, even though it should touch it."

Corner for Students.

CONDUCTED BY J. C. BROUGH, F.C.S.

The chemical notation employed in this section is based upon the new system of atomic weights, unless the use of the older system is specially indicated. In the *British Pharmacopœia* the symbolic formulæ corresponding to those adopted here are printed in heavy Clarendon type. The chemical nomenclature generally used in this Corner for Students agrees with that adopted in the new edition of *Fownes's Manual of Chemistry* which is recommended as a text-book. To secure uniform results students are requested to accept the atomic weights given in the last column of the *Pharmacopœia* table of elementary bodies.

QUESTIONS.

I. CALX CHLORATA, B.P.—Represent symbolically the chemical reaction supposed to be involved in the production of this useful compound.

II. PLUMBI ACETAS, B.P.—Give the names and symbolic formulæ of the precipitates referred to under the head of "characters and tests;" and prove that the volumetric test indicates, with sufficient accuracy, the molecular weight of the crystallised salt.

III. SULPHURIC ACID.—According to Ure's table, the sp. gr. 1.686 in an aqueous solution of sulphuric acid, indicates 63.6 per cent. of SO_3 . What weight of a solution of this strength, in grammes, must be used for the neutralisation of 20 grammes of lime, CaO ?

IV. HYDROCHLORIC ACID.—An excess of silver nitrate was added to 20 grammes of an aqueous solution of hydrochloric acid; the precipitate having been collected and dried was found to weigh 5.68 grammes. Required the percentage of HCl in the original solution.

V. QUANTITATIVE ANALYSIS.—One hundred parts of a salt, consisting of iron, phosphorus, and oxygen, yielded on analysis 52.632 parts of ferric oxide, Fe_2O_3 , and 73.75 parts of magnesium pyrophosphate, $\text{Mg}_2\text{P}_2\text{O}_7$. Required the symbolic formula and name of the salt.

VI. EXPANSION OF AIR BY HEAT.—A vessel of one litre capacity, provided with a stopcock, is exposed to the temperature of 100°C . by immersion in boiling water, the stopcock being left open until air ceases to escape; the stopcock is then closed, and the vessel, having been removed from the hot bath, is allowed to cool to 15°C ., the temperature of the apartment. If the stopcock be now opened under mercury, what volume of mercury, in cubic centimetres, will enter the vessel, the level of the liquid being the same inside and outside the vessel? [The operations are supposed to be performed when the barometer indicates the standard atmospheric pressure.]

VII. CARBON DIOXIDE.—What weight of calcium carbonate, CaCO_3 , in grains, must be dissolved in hydrochloric acid for the evolution of 10 pints of carbon dioxide (carbonic acid gas), at 59°Fahr . and the standard pressure? [Litre = 1.76077 pints.]

VIII. CHLOROFORM VAPOUR.—According to theory, what would be the weight, in grammes, of a litre of chloroform

vapour at the temperature of 100°C . and standard pressure? [See Data in September and October numbers.]

IX. ICE.—The density of pure ice may be taken as 0.92, that of ice-cold water being taken as unity, or 1.00. What weight, in grammes, can be sustained by a floating block of ice weighing 20 kilogrammes?

X. BLOCK OF STONE.—A cubical block of stone, the edge of which measures 2 feet, has to be raised out of a river. The sp. gr. of the stone is 2.6; the weight of a cubic foot of water may be taken as 1,000 ounces avoirdupois. Determine from these data the weight of the block when entirely immersed, and also when lifted out of the water. [The weight of a cubic foot of water comes sufficiently near to 1,000 ounces to render this simple relation of volume to weight a valuable basis for rough calculation.]

ANSWERS.

[See Questions in November number, page 719.]

I. ACIDUM SULPHUROSUM, B.P.—To neutralise 1 fl. oz. of this preparation, 1185.601 grain-measures of liquor potassæ are required.

Sulphur dioxide, SO_2 , combines with water forming sulphurous acid or hydrogen sulphite, H_2SO_3 or $\text{SO}_2 \cdot \text{H}_2\text{O}$. The neutralisation of this acid by potash is represented by the equation:



Hence, 112 parts of potash ($2\text{KHO} = 112$) are required to neutralise the acid corresponding to 64 parts of sulphur dioxide ($\text{SO}_2 = 64$). Now as the sp. gr. of acid sulphurosum, B.P., is 1.04, one fluid ounce of this solution weighs $437.5 \times 1.04 = 455$ grains; and as the dioxide, SO_2 , constitutes 9.2 per cent. of the solution, the actual weight of the dioxide in the fluid ounce is found thus:

$$100 : 9.2 = 455 : x; \therefore x = 41.86 \text{ grains } \text{SO}_2.$$

The weight of potash required for neutralisation is, therefore, found by the proportion:

$$64 : 41.86 = 112 : x; \therefore x = 73.255 \text{ grains } \text{KHO}.$$

According to the B.P., 100 parts by weight of liquor potassæ correspond to 5.84 parts of KHO , therefore the number of grains by weight of this solution corresponding to the weight of pure potash required for neutralisation is found by the proportion:

$$5.84 : 73.255 = 100 : x; \therefore x = 1254.366 \text{ grains liq. potassæ}.$$

But as the sp. gr. of liquor potassæ is 1.058, the number of grain-measures corresponding to 1254.366 grains by weight is found thus:

$$1.058 : 1 = 1254.366 : x; \therefore x = 1185.601 \text{ grain-measures}.$$

[If the strength of liquor potassæ be exactly determined by working out the result obtained by the volumetric test, the answer will be 1187.354 grain-measures. We have adopted the most obvious method of calculation.]

II. SODÆ ARSENIAS, B.P.—The white precipitates obtained with barium chloride and calcium chloride are arsenates of the metals contained in the reagents, with combined water. When the sodium salt is in excess, the precipitate formed is a mixture of different arsenates, as BaHAsO_4 and $\text{Ba}_3(\text{AsO}_4)_2$; but if the solution of the sodium salt be added drop by drop to the reagent, a simple arsenate is precipitated corresponding to sodæ arsenias, Na_2HAsO_4 , with 1 atom of the bivalent metal in place of Na_2 . Thus with BaCl_2 in excess, the insoluble salt obtained is hydrobaric arsenate, BaHAsO_4 ; with CaCl_2 , it is hydrocalcic arsenate, CaHAsO_4 . The precipitate obtained with zinc sulphate, under ordinary circumstances, appears to be the normal zinc salt or trizincic arsenate $\text{Zn}_3(\text{AsO}_4)_2$, with combined water. The characteristic brick-red precipitate, obtained with silver nitrate, is the normal silver salt or triargentic arsenate Ag_3AsO_4 .

III. HYDROCHLORIC ACID GAS.—The weight of sodium chloride required for the production of 1 kilogramme of this gas is 1602.74 grammes. The volume of the gas at 14°C . under the normal pressure would be 644.593 litres.

A molecule of sodium chloride ($\text{NaCl} = 58.5$) is required for the production of a molecule of hydrochloric acid ($\text{HCl} = 36.5$), consequently the number of grammes of salt

needed for the production of a kilogramme of the gas may be found by the proportion:

$$36.5 : 1000 = 58.5 : x; \therefore x = 1602.74 \text{ grammes.}$$

The volume of the gas at the standard temperature of 0°C . is thus calculated:

$$\begin{array}{l} \text{Grms.} \quad \text{Grms.} \quad \text{Litres.} \quad \text{Litres.} \\ 36.5 : 1000 = 22.38 : x; \therefore x = 613.15 \text{ litres at } 0^{\circ}\text{C}. \end{array}$$

Then as a volume of a gas at 0°C . is to its volume at 14° as 273 is to $273 + 14$, we have the proportion:

$$273 : 287 = 613.15 : x; \therefore x = 644.593 \text{ litres at } 14^{\circ}\text{C}.$$

IV. HYDROGEN.—The volume of hydrogen at 16°C . obtained by the action of 100 grammes of zinc on an excess of dilute sulphuric acid is 36.448 litres.

A single atom of the bivalent metal zinc ($\text{Zn} = 65$) will expel from the acid two atoms of hydrogen ($\text{H}_2 = 2$); in other words, 65 grammes of zinc will set free 22.38 litres, or two standard volumes of the gas measured at 0°C . Now let x be the volume at 0° liberated by 100 grammes of zinc, then

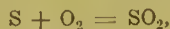
$$65 : 100 = 22.38 : x; \therefore x = 34.43 \text{ litres at } 0^{\circ}.$$

From this result the volume at 16° is found thus:

$$273 : 273 + 16 = 34.43 : x; \therefore x = 36.448 \text{ litres at } 16^{\circ}.$$

V. COMBUSTION OF SULPHUR.—The volume of atmospheric air at 15°C . required for the combustion of 1 kilogramme of sulphur is 3513.343 litres.

The combustion of sulphur may be represented by the equation:



from which it will be seen that the volume of oxygen required for the combustion of 16 grammes of sulphur is 23.38 litres at 0°C . Let x be the number of litres at the same temperature required for the combustion of 1 kilogramme of sulphur, then:

$$32 : 1000 = 22.38 : x; \therefore x = 699.375 \text{ litres oxygen at } 0^{\circ}.$$

The number of litres at 15° corresponding to this result is found by the proportion:

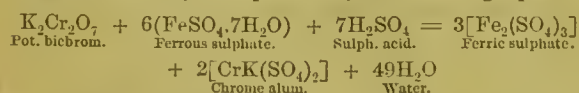
$$273 : 273 + 15 = 699.375 : x; \therefore x = 737.802 \text{ litres at } 15^{\circ}.$$

Then, as atmospheric air has 21 per cent. of oxygen by volume, the following proportion will give the volume of air required:

$$21 : 737.802 = 100 : x; \therefore x = 3513.343 \text{ litres of air at } 15^{\circ}.$$

VI. FERROUS AND FERRIC SULPHATES.—The weight of potassium bichromate required to convert 150 grammes of crystallised ferrous sulphate into ferric sulphate (an excess of free sulphuric acid being present) is 26.529 grammes.

The reaction may be expressed by the following equation:



This equation shows that 1668 parts of ferrous sulphate are converted into the ferric salt by the action of 295 parts of potassium bichromate. Let x be the weight of bichromate needed for the conversion of 150 grammes of the ferrous salt, then,

$$1668 : 150 = 295 : x; \therefore x = 26.529 \text{ grammes.}$$

VII. QUANTITATIVE ANALYSIS OF A SALT.—The salt is potassium hyposulphite, the symbolic formula of which is $\text{K}_2\text{S}_2\text{O}_3$.

As 488 parts of potassium platino-chloride ($2\text{KCl} \cdot \text{PtCl}_4 = 488$) correspond to 78 parts of potassium ($\text{K}_2 = 78$), 256.844 parts of the former obtained on analysis of the unknown salt correspond to x parts of potassium in the proportion:

$$488 : 256.844 = 78 : x.$$

Then as 233 parts of barium sulphate ($\text{BaSO}_4 = 233$) correspond to 32 parts of sulphur ($\text{S} = 32$), 245.262 parts of the sulphate correspond to y parts of sulphur in the proportion:

$$233 : 245.262 = 32 : y.$$

Then as oxygen is the remaining constituent of the unknown salt, the percentage of this element is found by subtraction—

$$\begin{array}{rcl} \therefore x & = & 41.053 \text{ parts of potassium.} \\ y & = & 33.684 \text{ „ sulphur.} \\ 100 - (x + y) & = & 25.263 \text{ „ oxygen.} \\ & & 100.000 \end{array}$$

These percentages divided by the atomic weights of the elements to which they relate, give numbers proportional to the numbers of atoms, thus:

$$\begin{array}{rcl} 41.053 \div 39 & = & 1.0526 \\ 33.684 \div 32 & = & 1.0526 \\ 25.263 \div 16 & = & 1.5789 \end{array}$$

These numbers are in the proportion 1, 1, $1\frac{1}{2}$, or 2, 2, 3, and therefore indicate the formula $\text{K}_2\text{S}_2\text{O}_3$.

VIII. GRAINS OF WATER IN THE LITRE.—According to the data the litre is the measure of 15406.7375 grains of water at 62°F .

The imperial gallon being the measure of 70,000 grains of water at this temperature, the pint is the measure of 8,750 grains; but the litre is declared to be equivalent to 1.76077 pints,

$$\therefore 1.76077 \times 8750 = 15406.7375 \text{ grains of water.}$$

[The compilers of the Tables in the *B.P.* have disregarded the different temperatures at which the British imperial measures and the French metric measures are adjusted; thus, according to one table, 1 pint = 8750 grains of water; but according to another, 1 litre = 15432.348 grain-measures. See revised Tables of Weights and Measures in the *Chemist and Druggist's Almanack* for 1869.]

IX. CRYSTAL.—The required sp. gr. is 1.6.

The crystal which weighs 200 grains in air, weighs only 91.25 grains in oil of turpentine, hence the weight of an equal bulk of this liquid is $200 - 91.25 = 108.75$ grains. But as the sp. gr. of the turpentine is 0.87, the weight of an equal bulk of water is 125 grains, for:

$$0.87 : 1.00 = 108.75 : 125; \therefore \frac{200}{125} = 1.6 \text{ sp. gr. of crystal.}$$

X. LIQUIDS.—The officinal acid referred to is Acidum Aceticum; the solution, Liquor Potassæ.

Since 500 grains of water are equal in bulk to 522 of the acid, the sp. gr. of the latter is

$$\frac{522}{500} = 1.044 \text{ (the sp. gr. of Acidum Aceticum).}$$

And similarly the sp. gr. of the solution is

$$\frac{529}{500} = 1.058 \text{ (the sp. gr. of Liquor Potassæ).}$$

PRIZES.

The First Prize for solutions of Problems printed in *Journal* November number has been awarded to

BENJ. T. SUMNER, 6, Bull Ring, Horncastle, the student who carried off the First Prize two months ago.

The Second Prize has been awarded to

W. H. WEDDELL, Austin-street, Stamford.

The student who comes third in order of merit is R. Greig, one of our regular correspondents, whose solutions invariably bear the stamp of earnest work.

Marks Awarded for Answers.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	E.	Total
B. T. Sumner (1st prize)	8	9	8	9	8	8	3	4	4	6	75	
W. H. Weddell (2nd)	7	7	9	8	9	7	9	4	4	4	72	
W. Greig	8	5	9	8	9	5	9	4	4	4	67	
T. T. ..	8	7	9	8	9	8	4	4	4	5	70	
A. P. S. ..	7	2	9	8	8	8	9	4	4	4	69	
A. Fraser	8	5	9	8	9	8	8	0	4	4	68	
J. A. Kendall	8	8	9	8	6	0	9	4	4	4	66	
J. D. D. Thomas	0	7	9	8	9	8	9	4	4	4	66	
E. D. W. ..	8	7	9	8	9	8	0	4	4	3	65	
Spero ..	7	6	6	7	7	8	8	2	4	4	63	
J. Gregory	0	2	9	8	8	8	9	4	4	3	58	
O. A. Steeds	0	7	9	8	0	8	9	4	4	4	57	
J. Paulin	8	2	9	8	9	8	0	0	4	3	56	
Tyro ..	6	4	5	8	9	—	—	4	4	4	47	
H. Habgood	7	5	8	9	—	—	—	4	4	4	45	
J. W. ..	2	4	9	7	9	—	—	4	4	0	42	
J. Tully	0	4	9	7	3	7	0	4	3	4	41	
C. Iretty	0	7	0	4	0	7	8	4	4	4	40	
N. W. Holmes	0	7	4	6	0	7	—	4	4	4	40	
H. G. H. ..	0	4	4	4	0	7	0	0	4	4	40	
W. J. Smith	0	0	4	8	0	0	0	4	0	4	38	
Edina ..	2	4	3	—	0	0	0	4	0	4	0	17
Audentia	—	—	0	—	—	—	—	4	0	4	0	8

TO CORRESPONDENTS.

*. All questions forwarded to us for publication in this "Corner for Students" should be accompanied by the answers which the propounders believe to be correct. As a rule, numerical results should be worked out to three decimal places. Communications should reach us at least ten days before the date of publication, and include the names and addresses of the writers.

A. P. S.—I. Decimal fraction wrong. II. In the formulæ of the arsenates, Ba, Ca, and Zn, are erroneously represented as univalent atoms. V. Decimal fraction wrong; probably a mistake in copying. VI. In symbolic equation the number of molecules of water produced not correctly given. All the solutions are admirably clear and concise.

J. Paudon.—II. The formula of the silver salt is the only correct one; see answer to A. P. S.—We regret that you have failed to obtain correct results for some of the problems, as the methods of working adopted are quite satisfactory.

Spero.—The atomic weights given in the B.P. should always be adopted. In calculations relating to gaseous volume the data we have furnished should be used.

Audentia.—Examine the answers printed in the present number.

N. W. Holmes.—I. You have mistaken the official preparation, which is simply a solution of sulphurous acid, for the pure acid H_2SO_4 . III. The weight of salt required is miscalculated, 94 having been erroneously taken as the molecular weight of NaCl.

Tyro.—I. The second proportion incorrectly worked out. The statement that 1 li. oz. contains 27 grains KHO does not exactly agree with the previous statements respecting sp. gr. and percentage composition, but as we did not indicate the data to be used in solving this problem, we award you as many marks as you would have been entitled to had you adopted our method of calculation. III. Two molecules of sodium chloride weigh 117, not 107.

H. G. H.—I. The official acid consists of water with about 11.75 per cent. of H_2SO_4 ; it cannot therefore be represented by the formula of the undiluted acid. II. The formula given for silver arsenate represents an impossible combination of atoms. III. In the proportion relating to volumes you have inverted the terms: the weight of salt required is correctly stated. IV. and V. The terms of the proportions again inverted, the multipliers being used as divisors, and vice versa.

J. Gregory.—I. Your calculations are based on a misconception of the chemical reaction. The work you refer to contains much that is misleading.

W. H. Weddell.—See notices to Spero and Tyro, above.

J. A. Kendall.—I. See notice to Tyro respecting the inconsistent data of the B.P. V. The result is incorrect, owing to an error of calculation. VI. Reaction not correctly represented.

T. T.—VII. The percentage of oxygen is indirectly determined from the percentages of potassium and sulphur. The question was based on the results of an actual analysis. Read the notices to Spero and Tyro, above.

Edina.—III. The terms of the proportion relating to volumes are misplaced, so that the number of litres at zero is erroneously made greater than the number of litres at the higher temperature. IV. A similar mistake occurs in this solution. Study our printed answers, performing the calculations indicated.

J. Tully.—We advise you to go carefully over our solutions.

A. Fraser.—VIII. Decimal point misplaced.

W. J. Smith.—I. See notice to H. G. H., above. II. Formulæ wrong, the acid radical being in each case represented with 2 atoms of arsenic. III. Volume at zero miscalculated. Compare your solutions with ours. See notice to Spero, above.

W. Greig.—VI. Symbolic equation not quite correct. The atomic weights given in the B.P. should be adopted.

J. D. D. Thomas.—I. See notice to H. G. H., above.

H. Habgood.—III. In the weight of the salt the decimal point is misplaced.

C. Pretty.—I. The result said to be obtained by experiment is obviously incorrect. See notice to Spero, above.

O. A. Steeds.—I. Miscalculated. V. Decimal point misplaced.

Books offered as First Prizes.

Atfield's *Introduction to Pharmaceutical Chemistry*. (Van Voorst.)
Conington's *Handbook of Chemical Analysis*; with Tables of Qualitative Analysis adapted to the same. (Longmans.)

Eliot and Storer's *Manual of Inorganic Chemistry*. (Van Voorst.)
Fownes's *Manual of Elementary Chemistry, Theoretical and Practical* (Churchill.)

Ganot and Atkinson's *Elementary Treatise on Physics*. (Longmans.)
Garrod's *Materia Medica*; with Modern Chemical Notation. (Waltou.)

Noad's *Chemical Analysis, Qualitative and Quantitative*. (Reeve.)
Northcote and Church's *Qualitative Analysis*. (Van Voorst.)

Royle and Headland's *Materia Medica*. (Churchill.)

Willinson's *Chemistry for Students*. (Clarendon Press.)

[Any other scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.]

Books offered as Second Prizes.

Church's *Laboratory Guide for Students in Agricultural Chemistry*. (Van Voorst.)

Galloway's *First Step in Chemistry*. (Churchill.)

Hofmann's *Introduction to Modern Chemistry*. (Waltou.)

Oliver's *Lessons in Elementary Botany*. (Macmillan.)

Potts's *Elements of Euclid*. School Edition. (Longmans.)

Roscoe's *Lessons in Elementary Chemistry*. (Macmillan.)

Wurtz's *Introduction to Chemical Philosophy*. Reprinted from the "Chemical News."

[Any other scientific book which is sold for about five shillings may be taken as a second prize.]



THE CHRISTMAS NOVELTIES OF THE LONDON STEREOSCOPIC COMPANY.

THE London Stereoscopic and Photographic Company have taken a leaf out of Dr. Paris's book of "Philosophy in Sport made Science in Earnest," and, as Christmas draws near, they always issue a number of elegant novelties, that may be regarded either as toys or as scientific instruments. The wheel of life, which sees children laughing and philosophers thinking, was one of their most startling Christmas boxes, but we doubt whether that magical optical toy could be such a lasting source of amusement as the Electric Wand, which is the principal novelty of the present season. This instrument is an electric machine of great power, by the aid of which numerous experiments may be performed. The wand itself consists of a strong glass tube firmly fixed in a handle of varnished wood, and it is excited by a rubber to which a condenser is attached. On rubbing the glass tube the electricity is collected by a ring connected with the condenser, which appears to be constructed on the principle of the Leyden jar, and after briskly rubbing the tube for about a minute the charge of the condenser is sufficiently strong to give a smart shock. The guinea box of Christmas novelties which the Company have just issued contains, in addition to the wand, several pretty little electrical instruments, namely, a coated glass plate, from which perceptible shocks can be taken; a rocking discharger, an electric bell; a card piercer, illustrating the mechanical effects of electricity; a luminous spangled plate; and a little disc top, upon which is painted a red cross, which can be made visible by the electric spark while the top is spinning. Other electrical apparatus, adapted for use with the wand, are sold by the Company. Chemistry is represented in the guinea box of novelties by a series of metallic fireworks, which will show the beautiful colours of the spectrum and the sparkling coruscations of various metals in combustion. Again there is a magnesium torch, which, when tied to a tree or post and fired, may serve to light a Christmas party home from one parish to another. Another article is a bottle containing transforming medium, an alcoholic solution of a salt, which, when lighted in a dark room, will make a group of brightly-dressed girls and boys look like "denizens of another sphere." Lastly, the box contains the "Royal Photographic Puzzle," which comprises a folding board, something like an ordinary draught-board, and thirty-two miniature cartes-de-visite of eminent persons. The puzzle depends upon the arrangement of the cards on the board. We must not omit to mention that the electric wand and condenser are enclosed in a strong mahogany box, and that they are protected by Royal Letters Patent. All the Christmas novelties issued by the Stereoscope Company this year are articles that our readers may legitimately sell.

RIMMEL'S CHRISTMAS NOVELTIES.

WE are most agreeably reminded of the near approach of Christmas by seeing some of the elegant novelties provided for the season by M. Rimmel. The source whence this gentleman derives his inspirations seems to be perennial. With every changing season appear fresh samples of his refined taste and fertile fancy, in the shape of toilet requisites, ornaments, and other articles of the same class, in the most novel and unexpected forms. But when the holly

berries and mistletoe are ripe, and various other indications warn us that Christmas boxes, Christmas parties, and New Year's gifts are imminent, thence he send forth an abundant shower of pretty trifles to meet the large requirements of the season.

Magic fans, which lie hidden in a bouquet, until required for use; cracker bonbons which, when opened, furnish important additions to the wardrobe of the fortunate possessor; scent boxes of every conceivable shape; scent packets of compact form, exquisitely ornamented; astonishing flowers, in whose centres grow scent bottles in the place of stamens; and other surprising and ingenious devices too numerous to mention, the whole perfumed in that mysterious and subtle manner of which M. Rimmel holds the secret.

Especially to be noticed are the very nicely-modelled little figures with which many of the perfume boxes are adorned. Both in form and colour, they are perfectly artistic, and will, doubtless, become very popular as toilet ornaments.

EXTRACT OF MUTTON.

This preparation, introduced by Messrs. W. J. Coleman and Co., and manufactured like their Extract of Beef, in the Australian colonies, supplies a want which the great excellence and convenience of the latter has created among invalids, housekeepers, and doctors. The proprietors assert that the Australian sheep yield a food of finer flavour than English mutton, and from a careful comparison of mutton broth made from a specimen of the Extract which has been furnished to us, with some made in the usual manner, adopting the proportion of meat which the makers give on their labels as the proper equivalent, we are quite able to corroborate their statement with regard to delicacy of flavour, while there can be no question that the extract is far more readily prepared into broth, and decidedly more economical.

THE "PAIN KILLER" INHALER.



Messrs. PERRY, DAVIS & SON have shown us a very simple form of apparatus which they employ for the inhalation of the vapour of their popular medicine. The vessel is nearly filled with broken pumice stone which is to be saturated with the liquid. The inspiration takes place through the bent tube, and we are informed that in cases of bronchial affections, catarrh and asthma, the pain-killer has been found of considerable service when administered in this form—a statement which its stimulant and diffusive properties render highly probable.



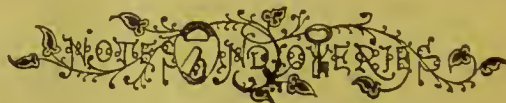
The Chemists and Druggists' Almanack and Pharmaceutical Text Book for 1869. Price 1s. (Free by post 1s. 2d.) 128 pp. Crown 8vo, cloth gilt.

THIS Almanack contains, in addition to a large amount of other valuable information, a calendar, a diary, and blank pages for memoranda; a variety of recipes and hints useful to pharmacists; a list of new remedies, with an account of their therapeutical properties; veterinary hints; notes on poisons; photographic chemicals and solutions; hints on dispensing, by Joseph Ince, F.C.S., and a series of revised tables of weights and measures, imperial and

metric, by J. C. Brough, F.C.S.; notes on books, homoeopathy, notes on novelties, a trade directory, a list of hospitals, general and special, as well as a number of other items usually contained in almanacks. The almanack is just ready, and may be had by enclosing 14 stamps to the Publisher, 42a, Cannon-street, E.C. We have been favoured by the editor with a number of the early proof-sheets of this almanack, and it appears to more than fulfil the promises already made about it. A more extended review will be contained in our next issue.

A Dictionary of Materia Medica and Therapeutics. By ADOLPHE WAILLUT, M.D., L.R.C.P. Lond., etc. John Churchill and Sons. Demy 8vo. pp. xi, 484.

DR. WAILLUT has produced a book which will outlive many works on materia medica of greater pretensions. He has laid a solid foundation upon which edition after edition may be erected without impairing the Doric simplicity of the original structure. The primary contents of the work are systematically tabulated, so that we can turn in an instant to any particular remedy, and find its Latin, English, French, Italian, German, and Russian names; ascertain its character and properties and composition; obtain full information respecting its physiological effects, therapeutics, dose, and form; learn the names of its pharmaceutical preparations; and examine a number of classical prescriptions selected from the formulæ of the most eminent British and foreign practitioners. The compilation of this immense table, extending through 404 pages, has evidently been a work of love, and we cannot help thinking that this work was commenced without thought of publication. In a second and much shorter table we have a classification of drugs according to their action. The Appendix comprises tables of weights and measures, and of chemical symbols and atomic weights. Then we have a lengthy index of names and synonyms involving over six thousand separate references. Next we have an elaborate index of authors, with references to more than a thousand separate prescriptions. Lastly, we have an index of diseases in which the prescriptions are again referred to. In the Introduction to this admirably arranged work the author states that "its purpose is that of a book of reference for the busy practitioner, whose memory may now and then require assistance, or who may wish to be guided in difficult cases by the formulæ of others." We may add that the busy pharmacist will do well to keep this useful book of reference within reach.



QUININE PILLS.—Dr. L. E. Atkinson, in the *Philadelphia Medical and Surgical Reporter*, thus describes a simple method of preparing quinine pills:—I add to the sulphate of quinia, a small quantity of tartaric acid, and, after thoroughly incorporating the two in a glass mortar, add a very small quantity of water or syrup. The mass at once assumes a soft consistence, which is retained for some time, and admits of its being rolled, treated with drying powder, and otherwise handled, as the pillular mass made by other substances. This permanence gives one not skilled in pharmacy ample time to prepare the pills without haste; a *sine qua non* when uniformity of size is desired. Should the mass become dry, a little water or syrup will restore it to a proper consistence. The formula which I employ is as follows:—

R Quinæ sulphatis	3j.
Acid. tartaric	gr. iv.
Aquæ	m. j.

Triturate the quinia with the acid until thoroughly incorporated, then add the water. Divide into any number of pills

desired. If the acid is dry, this quantity of water is right; if it contains much water of crystallisation, it is too much. The advantages of this formula are—1st, the mass is tenacious, and easily worked; 2nd, it does not readily lose its pilular consistence, thus enabling the operator to prepare a large number of pills at once; 3rd, the bulk is small; and 4th, it can be prepared by any one possessing the most ordinary pharmaceutical skill.

COLONIAL CHEMISTS. *Sam Burgess.*—The operation of the Act does not extend to Australia. Replying to the second inquiry, we learn from the editor of the *Cape and Natal News* that the prospects of a chemist's assistant in Natal are not so good as at home. He considers (from a practical acquaintance with the colony) that it is not advisable to emigrate there, except with a few hundred pounds to commence business.

PHARMACY ACT.

One who has been an Assistant for Fifteen Years writes:—"You would be doing the assistants great service by advocating their rights. It is the opinion of most chemists, pharmaceutical and outsiders, that they have been very unfairly dealt with in the new Act. After passing the Modified Examination, they ought, at all events, to have the same privileges as those who are now in business—I mean have the option of becoming members of the Pharmaceutical Society (not associates), when entering into business on their own account. No doubt several of the clauses will have to be altered by the new Parliament, so I think the assistants ought at once to cry out for their rights, and I trust you will assist them." [We must remind our correspondent that it is the duty of the Pharmaceutical Council to do all they can to induce members of the trade to pass the Major Examination. One who has been an assistant for fifteen years may reasonably complain of the regulation which prevents him becoming a member of the Society without passing the Minor and Major Examinations, but assistants of three years' standing ought to have some inducement to work up the higher branches of pharmaceutical science.]

A Country Chemist (Bridgend).—We believe that vermin-destroying compounds, containing arsenic or strychnine, can only be sold under the restrictions applicable to the poisons they contain. We do not know what regulations will have to be observed in the sale of sheep-dipping preparations. In reply to your question respecting wholesale dealing, we may state that the sale of any quantity of poison to a surgeon comes within the meaning of wholesale dealing.

A. R. writes:—"Oblige me with your opinion upon the following case. By the Act which will come into operation with the new year for the regulation of the sale of poisons, etc., it is said that a widow may continue to carry on the business of her deceased husband, provided she employs a competent registered manager. Now in the case of a widow so circumstanced, wishing to marry a man who is in no degree acquainted with her business, and who proposes to take no part in the conduct of the same, would the fact of that marriage compel her to transfer her business, or might it still be carried on as before by a manager?"—[Our opinion is that the widow may claim registration under the Act. Our advice is that she get married at once, and apply to be registered under the name she intends to hear. The question raised is a delicate one, but it seems to us that according to Clause III., the lady is a chemist and druggist within the meaning of the Act, and that she may secure full trading rights by registration.]

Nolens.—There will be some difficulty in proving incompetency. If his certificate is signed by a legally qualified medical practitioner, we do not see how his registration is to be opposed. According to Clause XIV., a physician who aids a man in securing registration by fraudulent representation shall be deemed guilty of a misdemeanor.

Title and Index to present vol. in our next.

The annual meeting of the North Staffordshire Medical Society, was held on the 26th ult., at Stoke-on-Trent. There was a good attendance. The retiring president, R. Goodall, Esq., delivered an address noting the discoveries and progress which have arisen in medicine and the allied sciences during the past year. The various aids to the diagnosis and treatment of disease were discussed, as also the more important chemical and physiological discoveries which have been made during the year.



THE SANDFORD TESTIMONIAL FUND.

LIST OF CONTRIBUTIONS—Continued.

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Manning and Son, Yeovil ..	0	10	6	Taylor, Jas., Radcliffe ..	0	5	0
Mumbray, R. G., Richmond ..	0	5	0	Teed, David, Exmouth ..	0	2	6
Manthorp, F. W., Colechester ..	0	2	6	Thomas, H. J., Bath ..	0	5	0
Manthorp, R., Colechester ..	0	2	0	Tylee, Mr., Bath ..	0	10	6
Manthorp, S., Colechester ..	0	5	0	Tyron, W. G., Landport ..	0	5	0
Nutt, I. A., 47, Piccadilly ..	0	5	0	Taylor, R., Ryde, Isle of W.	0	10	6
Naylor, L., Bow ..	0	2	6	Vint, T. D., Sunderland ..	0	10	6
Newton, W., Saddleworth ..	0	2	6	Wileox, E. 336, Oxford-st.	1	1	0
Olive, W. J., Pimbley ..	0	2	6	Wyld, Geo., Kings-road, S.W.	0	10	6
Parnoll, L., Peterborough ..	0	10	0	Wilson & Kitchen, Whitehaven ..	0	10	6
Prior, J. T., Oxford ..	0	5	0	Watson, G. C., Whitehaven ..	0	2	6
Potts, Mr., South-Audley-st.	1	0	0	Wallworth, D., Maldon ..	0	5	0
Price, E., Curdill ..	0	5	0	Wheeler, Jno., Chipping Sodbury ..	0	10	6
Plunk, A. J., Dover ..	0	2	6	Whineup, W., 404, Essex-road, N. ..	0	10	6
Pars, R. C., Thrapston ..	0	5	0	Whithers, H. P., Cromer ..	0	5	0
Philpotts, Jos., Blakeney ..	0	5	0	Wilson, Dr. J. A., London ..	1	1	0
Poolley, J. C., Bath ..	0	5	0	Watson, J. B., Chipping Norton ..	0	2	6
Patterson, Geo., Stamford ..	0	5	0	Williams, J. D., Bodmin ..	0	5	0
Provost, Mr., Stamford ..	0	5	0	Williams, C. G. T., Bath ..	0	2	6
Paget, J., Loughborough ..	0	5	0	White, W., Greenock ..	0	2	6
Prosser, E. T., Colechester ..	0	5	0	Williams, W. H., Hayle ..	0	2	6
Perks, Fras., Stourbridge ..	0	5	0	Watson, H., Cambridge ..	0	5	0
Quarrington, Mr., Bath ..	0	5	0	White, F., Nottingham ..	0	5	0
Reeve, Chas., London and Westminster Bank ..	5	5	0	Wright, Geo., Birmingham ..	0	5	0
Reynolds, Freshfield, Leeds ..	0	5	0	Williams, G. L., Burnham ..	0	2	6
Rayner, F., Radcliffe ..	0	5	0	Whittle, E. C. C., St. John's-wood ..	0	5	0
Roberts, I., Middleton ..	0	5	0	Wilkins, G. M., Colechester ..	0	2	6
Rose, A., Epsware-road ..	0	10	6	Whitwell, Geo., Stourbridge ..	0	5	0
Radcluse & Foster, Whitehaven ..	0	10	6	Welch, Jno., Stourbridge ..	0	2	6
Raysdall, Mr., Norwood ..	0	10	0	Welch, Jno. J., Stourbridge ..	0	2	6
Richardson, I., 44S, Kingsland-road ..	0	10	0	Wild, W., Oldham ..	0	5	0
Radomacher, C. I., 10 Morn ngton-road ..	0	10	6	Yewdall, E., Leeds ..	0	10	6
Roberts, J. M., Pwllhely ..	0	5	0	Yung, R. F., New Barnet ..	0	10	6
Rees, David, Carmarthen ..	0	2	6				
Russell, C. J. L., Windsor ..	0	10	6				
Rees, Mr., Stamford ..	0	2	6				
Robertson, W., Elgin ..	0	5	0				
Randall, F., Colechester ..	0	2	6				

MICHAEL CARTEIGHE, 172, New Bond-street, London, W.

JOHN MACKAY, 119, George-st., Edinburgh.

HY. MATTHEWS, 60, Gower-st., London, W.C.

Hon.
Secs.

7 N.B.—Donations may be made payable at the chief office, to the Treasurer, Mr. B. B. Orridge, or to Elias Bremridge, 17, Bloomsbury-square, London, W.C.

8 The hon. secs. request the members of the committee and the local secretaries to send their lists to London by the 20th of December, a few only having been received up to the present time.

PLYMOUTH, DEVONPORT, AND STONEHOUSE ASSOCIATION OF CHEMISTS AND DRUGGISTS.

FIRST ORDINARY MEETING.

The members of this newly-formed society met at the Plymouth Athenæum on Wednesday the 11th ult. for the reading and discussion of papers. The President, Mr. I. C. Radford, occupied the chair. Among those present were Mr. H. S. Evans, Vice-President of the Pharmaceutical Society, who had come from London to support the Association, Dr. France, Dr. Woolcombe, Messrs. J. Bourne, C. Croydon, R. S. Down, Shapton, Herron and J. H. Filmer.

The President, in opening the proceedings, observed that

the last time they met there the room was crowded with things rare and beautiful, and filled with a brilliant assemblage of persons of rank, talent, and learning. Their opening conversation might be regarded as their holiday; that night they began their work, and he hoped that as they were successful in keeping a good holiday they would not be found wanting when they came to their work. He desired to call attention to a section of a tree which was lying upon the table. At one of the learned societies at Liverpool a question arose as to the salubrity of the climate of Liverpool, and it was stated that a magnolia tree had lived in the winter in the neighbourhood in the open air, one individual stating that the tree was six inches in diameter. The section he alluded to was part of a mangolia tree which grew and died in that neighbourhood, and at its broadest point the diameter of the section was just 18 inches. Now it would be a curious thing to know whether other trees of the same nature in this and the adjoining country died at the same time, or were still living—whether that which caused the death of the whole of those trees in the neighbourhood was local, or whether it extended to any considerable distance. He mentioned those facts because, seeing a reporter present, they might be able to get information from different parts of the country, and he would suggest to the members of the Association that it would be desirable for them to endeavour to ascertain the fact. He wished also to draw attention to a very interesting and a very valuable case which stood upon the table, containing specimens of various articles in the materia medica, and which had been presented to the Association by Mr. Evans, whom they were proud to see among them, and whom they could welcome with every good feeling as Vice-President and one of the examiners of the Pharmaceutical Society.

The first paper was by Mr. HILL, its subject being

THE PHARMACY ACT AND DISPENSING.

The author having explained the objects and principal provisions of the Act, said that when the grave consequences which were immediately connected with the exercise of their calling as dispensers of medicine were considered, no one would say that the Legislature had departed from the path of justice in demanding a proper qualification in those to whom was entrusted the manipulation of patent remedies and in granting to them a monopoly. He contended that the Act was an exceedingly wise one, beneficial alike for those whose lives were in their hands; for those whose skill in the treatment of disease was to be assisted or marred by their handiwork; and for themselves in securing that the due reward of their toil, care, and solicitude might be reaped by them. He then proceeded to speak of a more particular application of the Act, combating the fear expressed that the Act would not be found suitable to country districts, but only to large towns. He explained the nature and conditions of the examinations a person would have to pass before he could open a shop as chemist or druggist, and before he could be registered as a pharmaceutical chemist, and in going through the clauses of the Act pointed out that clause 24 extended the Act for preventing the adulteration of food or drink to all articles sold as medicines; while clause 26 gave power to the Privy Council to extinguish the trade of a man altogether by directing that any person convicted of any offence against the Act should have his name erased from the register. Referring to the 1st and 17th clauses of the Act, which regulated the sale of poisons, Mr. Hill pointed out that every druggist would be honnd by a penalty to keep a register of the names and addresses of all persons to whom he sold poisons, and to affix his name and address to every packet or parcel sold by him. Further observation of the Act would, he thought, show that it inflicted a vast amount of trouble to counterbalance the favours it bestowed, and he questioned the necessity of a druggist being compelled to label many almost harmless articles as poison. One effect of this regulation would be to make the public careless of the label "poison." He contended that the Act was of great importance to the medical profession because of the knowledge it necessitated in the calling of druggists and chemists, who had to dispense the medicines prescribed by them. To their young associates the measure should act as a stimulus; and to one another its effect should be to strengthen the bands of brotherhood, for they would require to be united for the help and defence of one another by the

necessities engendered through the requirements of the Pharmacy Act.

A paper by Mr. F. Codd, of Devouport on

SPECTRAL ANALYSIS

was then read by Mr. F. Balwill, the author being unwell. The subject of spectrum analysis was generally supposed to be a new one, but it was recorded that Sir John Herschel had used this method of investigation in a crude form as far back as 1822. Still it was only within the past ten years that spectral analysis had reached its present important position in the scientific world, having been first applied in its present form by those great continental and world renowned philosophers and chemists, Kirchoff and Bunsen. Spectral analysis, was the art of analysing coloured flames, bodies, etc., by means of a prism, and the principal branches of science to which it was now applied, were first, solar and stellar chemistry; secondly, as a most important assistant to the analytical chemist, and thirdly, in a modified form, in conjunction with the microscope, it was used in order to detect the presence of, and difference between, certain coloured liquids, solids, etc., otherwise undeterminable. It was to the latter two divisions of the subject that the author drew the attention of the Association, being the more interesting to them because the more intimately allied with their professions. Having explained the principle of the method, together with the mode of applying that principle to the building of the spectroscopes, the author proceeded to examine the subject "as applied to qualitative analysis," observing that it had long been known that many substances were readily recognised by their property of colouring a colourless flame, but this method was available only when those substances were in an unimixed state. Now, that defect was remedied to a surprising extent by using the spectroscope; for from the fact of each base giving to the spectrum its own peculiar line, however numerous the salts might be in a compound, all their bases were really recognised by the practised eye, and with a certainty beyond doubt, thus giving results in a few seconds which could formerly be obtained only, if at all, in hours or days. As instances of the extreme delicacy of the test he stated that the 250,000th part of a grain (a scarcely estimable quantity) of sodium was easily detected; also that this metal existed in the atmosphere in sufficient quantity to give an almost constant spectrum. Other examples were cited, but as a proof of the great value of the method it was mentioned that in addition to having determined the widely spread presence of metals, etc., formerly considered very rare, four new metals, namely, Cesium, Rubidium, Thallium, and Indium, had been discovered by its means, since the year 1860, and surely, said the lecturer, "judging from what has already been accomplished in such a short period, are we not justified in the idea that many of the old-established so-called chemical facts will be revolutionised by the new method?" In vindication of that idea he traced the history of the discovery of the above-named new metals. The various processes necessary in order to obtain the different spectra were mentioned; so also were described the modes of examining any particular spectrum more minutely, as well as the means of registering the positions of the different spectral lines or bands. Having described the difference between the foregoing method and that branch of the subject denominated "micro-spectroscopy," the lecturer also adduced several interesting facts in proof of the great practical value of the latter mode, especially in medico-legal inquiries. At the close of the papers, the President invited discussion.

Mr. H. S. EVANS, who was loudly applauded on rising, said that he had listened with great pleasure to both papers which had been read that evening. Mr. Hill's paper had gone through a very difficult subject in a very concise way, and he had shown very clearly the weak as well as the strong points of the Pharmacy Act. He had also listened to the second paper, by Mr. Codd, with a very great deal of interest and pleasure, as it was a subject in which he himself had taken much interest, and he could quite sympathise with everything that Mr. Codd had put forward. With regard to the *cui bono* of the subject, it was only in its infancy; its *cui bono* would be proved in years to come, when it would be found that spectral analysis was one of those instruments which would enable them to go further than any other

analytical process then known in proving facts about which they were then in the dark. With regard to the extreme usefulness of its application to the microscopic subject, he had himself made certain experiments with regard to the absorption of bands of blood, and he should be very much mistaken if, in the course of a few years, they would not only be able, by means of spectral analysis, to positively affirm that a certain spot was blood, but that it was the blood of a certain animal, for he had found by an examination of the blood corpuscles of various animals—the pig, dog, cat, and so on,—that although they showed absorption bands, yet that those absorption bands were of different thickness, and occurred at slightly different positions in the spectrum, and time only required, he thought, more accurate observation and more accumulative results to decide exactly where the absorption bands of particular kinds of blood will appear in the spectrum. He simply mentioned this as a fact in *futuro*, as showing what the *cui bono* of the subject might be. Going back to the first paper, as the representative of the Pharmaceutical Society, he might be expected to say something about it. Mr. Hill had shown them that there would be a great deal of difficulty and trouble in conforming to all the regulations of the Pharmacy Act, but if they looked to the first clause, he (Mr. Evans) thought they would see a solution to all those difficulties. It said there that no person should keep open a shop for the sale or dispensing of medicines, unless he be a chemist or druggist within the meaning of that Act, and unless he conformed to the regulations for the sale of poisons as might be from time to time set forth by the Pharmaceutical Society with the consent of the Privy Council. He might tell them they were in perfect accord with the Privy Council, and the Pharmaceutical Society knew exactly the difficulties which the Pharmacy Bill put in their way: and they had the assurance from the Privy Council that whatever reasonable propositions they might make with regard to the construction of that schedule, such an order would be given as would give it the power of law. With regard to certain preparations of opium, poppies, etc., it certainly seemed that they would be bringing the word "poison" into contempt by calling every mixture of that kind "poison;" that was not the intention of the Act, and he had no doubt—he had authority for saying so—that such regulations would be agreed upon as would prevent that inconsistency. There had been a little objection taken to the 15th clause, which provided that medicine should be compounded according to the British Pharmacopœia. The point was put a great deal more offensively than it was in its present form, and the real meaning of the clause was simply that a prescription written in the language of the Pharmacopœia of 1867 should be dispensed according to the British Pharmacopœia. That was a condition of things which every retail chemist and druggist throughout the country would be inclined cordially, he believed, to endorse. If a medical man wrote his prescription in the language of the British Pharmacopœia, there could be no question that the prescription should be dispensed according to the Pharmacopœia; but if he wrote it in the language of the old Pharmacopœia, there came a doubt, and that Act did not fetter them in any way. The dispensing chemist was then at liberty to exercise his own judgment. In all probability, he was in a position to know the medical man who was prescribing; or it might be an old prescription which was written before the Pharmacopœia of 1867 was published; in such cases the dispenser must exercise his own discretion, and he was quite at liberty then to dispense it according to the old Pharmacopœia. Then there was another observation made, that the wholesale dealer was quite at liberty to do what he liked; but there was a little difference in the expressions on that point. The wholesale dealer was quite at liberty to do what he liked when he sold wholesale to a retail dealer; but he was not at liberty to do what he liked when he sold poisons in large quantities to person who were going to use them in the arts—to photographers, for instance; he had then to conform to the provisions of the Act. He had no other special remark to make, but he was exceedingly pleased to hear Mr. Hill say to the young men who were in that room that they must look to botany and chemistry as their sheet anchors. He knew that botany was spoken of as difficult to get through with; nevertheless, if a young man only accomplished it, it gave him a better basis for inquiry hereafter than any other subject

could do, and speaking as one of the examiners of the Pharmaceutical Society, he might say that they had found that those who had conquered botany were the men who had all the other facts necessary at their fingers' ends. It was a dry study at its commencement, but it disciplined the mind in such a way that it got accustomed to grasp dry facts afterwards, and he would recommend all those young men intended to come to the examinations of the Pharmaceutical Society, to work hard at their botany.

A discussion then ensued, in which Mr. A. Balkwill, Mr. Herron, Dr. Prance, and others took part. In answer to questions, Mr. Evans said that in the next session of Parliament, something, would, probably, be done with regard to dispensers in hospitals, and persons of that class. Mr. Herron suggested that it would be well if the law were altered in such a way that a medical man should be obliged to put "B.P." on his prescriptions. Mr. Evans said the law was perfectly clear that the dispensing chemist was bound by the law to observe the British Pharmacopœia, but there were cases in which he would have to use his own discretion. If he got a prescription dated 1864, he must not make it up according to the Pharmacopœia of 1867. The responsibility then rested with the medical man and not with the druggist.

During the discussion, Dr. Prance said there could be no doubt that the society was of great use to the medical men; for he had said dozens of times that whatever skill a professional man might use in a case it was unavailing if he could not get his prescriptions properly prepared with the best drugs.

Votes of thanks were passed to Mr. Hill and Mr. Codd for their papers, and to Mr. Evans for his presence, and the present he had made to the Institution.

DUNDEE CHEMISTS AND DRUGGISTS' ASSOCIATION.

THE first meeting of the second session of the Dundee Chemists and Druggists' Association was held in Lamb's Hotel on Wednesday evening, 9th December, Mr. W. Laird in the chair. The first business of the meeting was to elect office-bearers for the ensuing year, but it was resolved first to consider the propriety of increasing the rate of subscription for membership, so that a greater amount of money might be at the disposal of the Society, for carrying out the idea of procuring a suitable meeting-room, gradually forming a library, and being in a position to take advantage of any opportunity for laying the nucleus of a museum, and otherwise to make the Association more worthy of the support of every member of the profession in town. After several opinions had been elicited, it was moved, seconded, and passed unanimously, that members' subscriptions should be doubled in the case of masters and assistants—that of apprentices remaining as before. Office-bearers were then elected as follows:—President, Mr. David Russell; Vice-President, Mr. William Laird; Treasurer, Mr. W. P. Henderson; Secretary, Mr. James Hodge. Committee—Messrs. D. H. Ferrier, William Doig, Charles Kerr, William Park, George Jack, P. G. Donald; and the office-bearers, *ex officio*—Mr. Doig, Convener. The paper for the evening was on "Heat," by Mr. Jack, which he treated in a most lucid and popular manner. It was of a lengthy character, and, being well illustrated by diagrams and several successful experiments, was listened to with much attention throughout. Several of the members in their remarks on the paper took occasion to enlarge on the great use of the physical sciences in the profession to which they belonged, lamenting that the teaching of such branches was conducted too much in a negative fashion, and hoping that the younger members of the business would endeavour to qualify themselves in such matters, as well as simply to attend to the ordinary routine of every day counter work. There being no other business, a vote of thanks to the Chairman and to Mr. Jack for his able paper, terminated the proceedings.

HULL CHEMISTS' ASSOCIATION.

THE annual dinner of the above association was held at the Paragon Hotel, on the 10th inst. There was a good attendance, and the chair was occupied by Mr. Burn, and

the vice-chair by Mr. Hammond. The chairman, having given the loyal and patriotic toasts, proposed "The Town and Trade of Hull." Mr. A. Smith responded to the toast, remarking upon the development of the trade and commerce of the town. Mr. Stanning proposed the toast of the evening, "Success to the Association," and, in doing so, alluded to the great success which had attended its operations. Mr. Hammond acknowledged the toast, and endorsed the observations of Mr. Stanning, and his remarks were received with general applause. Mr. Hollingsworth proposed "The Secretary and Treasurer." Mr. Bell responded in a very able speech. Mr. Dobson proposed "The Ladies," and Mr. J. B. Marsden, in a very humorous and singularly appropriate speech, responded.

THE PHARMACY ACT IN SCOTLAND.

THE following letter appeared in a recent number of the *Scotsman*:—

"SIR,—there can be no doubt that the Pharmacy Act was imperatively called for, but should it interfere with legally qualified medical men who dispense only their own prescriptions at their own residences or surgeries, such not being open shops for the sale of medicine, it will certainly be a grievance of which they may justly complain. It appears to me that the strict interpretation of the Act will not even permit of that; if so, I expect it will soon be altered. However, I wish to call attention to a practice that has long prevailed in different parts of Scotland. It has been long the custom of many medical practitioners to keep open shops, not only for the dispensing of their medicine, but for doing the business of a regular druggist in a very irregular and incompetent manner. To give you an illustration, I take the town in which I reside. There are here seven surgeons who keep open shops for the sale and dispensing of medicine. These shops are for the greater part of the day superintended, five of them by mere boys, all under fifteen years of age, who receive the handsome sum of about 2s. 6d. per week; the other two shops, which belong to one surgeon, are kept by girls, who may with propriety be called maids of all work," being either dispensers or housemaids, etc., as required. In the absence of the doctor, these shops are left to the entire management of the boys and girls, who are at liberty to sell anything or everything contained therein. The boys generally go to the surgeons' shops so early as the twelfth or thirteenth year of their age, with little education. The surgeon not being much in his shop, he has little opportunity of teaching them anything, and in many cases the surgeon himself is practically deficient as a chemist and druggist. After having spent a few years with such a surgeon, and learned but little of the business, he goes forth to the world a chemist and druggist. I have known many so trained commence business, who neither knew the history, effects, or doses of the poisonous medicines in daily use. In any amendment Act, the Pharmaceutical Society should take care, whatever powers are given to legally qualified medical men to dispense their own medicine, that they be not allowed to keep open shop, so that hereafter the public will have a guarantee that drug shops are only kept by men properly educated, trained, and duly qualified to do so—I am, etc.,

A DRUGGIST.

BANKRUPTCY.

IN RE C. D. GARBETT, GATESHEAD, CHEMIST.

THIS bankrupt came up before Mr. Commissioner Abraham, at Newcastle, on the 26th ult., for his last examination and discharge. Mr. Harle appeared for the bankrupt, and Mr. Hoyle for the assignees. Mr. Harle informed the court that the assignees at the last meeting wished to have further time to consider the accounts which bankrupt had filed. Mr. Hoyle then proceeded to examine bankrupt on the accounts, and more particularly as to an item of £400 stated to have been lent by a sister-in-law named Mary Robson. Bankrupt stated that she was a widow, and a person of independent means. Her late husband carried on business some years ago in Newcastle. About the 23rd or 24th of April last Mrs. Robson lent him £400 in cash. She had also lent him other monies, which had been repaid.

The £400 was lent at Otterburn, but he could not state in what kind of money it was paid over to him, but he believed that it was in gold. He did not know that Mrs. Robson had compounded with her late husband's creditors, or had paid them in full. He had heard that Mrs. Robson had money in building societies and in the Funds. He did not know the amount of money she had. Bankrupt stated on a previous occasion that the money he had got from Brown was paid into a building society. Lumsden also lent him money, part of which he put in his business and part into building societies. The greater part of the money bankrupt borrowed had been paid to his brother, John Garbutt, for his interest in the Dunston Lodge Asylum. Bankrupt bought the house in West-street since he got the money, about two years and a half ago. Bankrupt put the £250 he received from Brown into his business, as he had no capital. Paid £800 for the West-street property, and mortgaged it to the society for about £650. He paid joint accounts for Dunston Lodge out of the £400 he got in 1866. Bankrupt could not swear that he paid any of the £400 for Dunston Lodge. He gave Lumsden and Brown a second mortgage on everything. It was arranged that when bankrupt got the advance from Lumsden and Brown that he should do so. He could not swear that it was three months before his bankruptcy that he signed the deed. He could not swear that he executed the deed to Lumsden and Brown before he executed the deed to the building society. Mr. Hoyle said they must have some further explanation. There was the large sum of £1,100, and every vestige of property had been mortgaged. His Honour: Within a short period of the bankruptcy. Mr. Hoyle: Yes, your honour. Bankrupt must satisfy him as to the £1,100. He said he had put it into property, and it was quite clear that the assignees must know what property he had put it into. Robson's debt was very doubtful, and Lumsden and Brown's still more doubtful. He first mortgaged the property to a small extent to a building society, and then Lumsden and Brown got a mortgage for their debt, and then, without mentioning anything about Lumsden and Brown's debt to the building society, he got another advance for £500 on a second mortgage. His Honour: It is very unsatisfactory, and looks like a fraud upon the building society. Mr. Harle said the bankrupt was in a singular position: he was now examined upon his separate estate, and there were no creditors under it except a Mr. Robinson, who had not proved. The point for the consideration of the court was, had Garbutt received these monies. There was no doubt he had; the case then turned upon what he had done with them. The bankrupt's account which he gave was the true one. He had put part of the money into his business and part into property. He had been a most industrious man, and if the unfortunate difference had not occurred between himself and brother, he would have been a wealthy and prosperous man. With regard to the building society mortgages, the one was merely a transfer. He first obtained a small advance on the freehold: he then repaid the money, and again mortgaged the freehold to another society, and it was not the business of the man who mortgaged to give notice to the society—it was for Messrs. Brown and Lumsden to have done that. As to the dates of the deed, Mr. Hoyle or Mr. Watson could get them by applying to the secretaries or trustees of the building societies. All the bankrupt had to do was to account for the money he had received, and he had done so. He had had large demands upon him to meet the instalments of the society, and this was the common sense view. His Honour would see that he had been most industrious and successful up to a certain date. He had paid certain debts on account of the Dunston Lodge Asylum, and this asylum had no doubt been his ruin. He inherited it, bought and added to it, but unfortunately, through the disagreements of the brothers, it did not appear to have prospered in their hands, and the bankrupt seemed not by his own creditors, but by the creditors of the asylum, to have been brought into that court. His Honour said he could not understand how a man who had made a mortgage to one firm could go afterwards to a building society for another. Did it appear to the assignees that any further examination could facilitate the sale of the property? Mr. Hoyle said it was most important to have the dates. Almost up to the moment of bankruptcy the bankrupt represented himself as being well to do, and able to pay more than 20s. in the pound,

and the assignees wanted to know why, on the eve of the bankruptcy, everything had been transferred. His Honour: He admits the receipt of £1,100, why doesn't he give satisfactory answers as to the manner in which he disposed of it? The bankrupt: It was all invested in property. His Honour: It is not an answer to say it was all put into property. We must have a more definite answer. I cannot say I am satisfied. The bankrupt must give the information required, and the meeting must be adjourned for that purpose.

IN RE E. C. HADEN, SEDGLEY, SURGEON.

A meeting for last examination and discharge of bankrupt was held on the 4th inst., before Mr. Commissioner Sanders, at Birmingham. Mr. C. B. Hodgson appeared for the assignee, and Mr. Griffin for bankrupt. There was no opposition, and bankrupt received his order.

IN RE HARPER TWELVETREES.

In the London Bankruptcy Court, on the 24th ult., this bankrupt, who was described as formerly of Bow and Bromley-by-Bow, manufacturing chemist and drysalter, and now of Dublin and Sandycore, near Dublin, manager of the Dublin Rice Mills, applied for an order of discharge. The schedule disclosed debts and liabilities to the amount of £20,275, of which £14,103 were contingent liabilities in respect of shares in public companies, with available assets of inconsiderable value. In 1865, the bankrupt transferred his business to a limited company, trading as "Harper Twelvetree's Limited," and in the following year the business was purchased by the General Trading Company, Limited. Both those undertakings were being wound up. The Commissioner granted the order of discharge, observing that the bankrupt had given his evidence with respect to his transactions very fairly, and that the failure seemed to have been the result of a connection with public companies.

LAW AND POLICE.

SHOOTING AT A STOCKPORT DRUGGIST.

At the Chester Assizes, on the 7th inst., Edward Arthur Booth, was found guilty and sentenced to ten years' penal servitude, for shooting, with intent, at Mr. T. J. Johnson, druggist, of Stockport, on the 2nd of December last. It appeared that the prisoner had been in the employ of Mr. Johnson as porter, and had left on his own account. While prosecutor was walking in the street on the day named, the prisoner, who was behind him, fired a pistol, but the charge happily passed over Mr. Johnson's head without injuring him. When apprehended, prisoner said he was very sorry he had not hit Mr. Johnson.

TWENTY-FOUR BAGS OF COCHINEAL STOLEN.

At the Thames police-court, on the 8th inst., Richard Story, a carman, was brought up on remand before Mr. Benson, charged with being concerned with others in stealing a horse and cart and twenty-four bags of cochineal, value £500, the property of Mr. Walter Hartley, a licensed and bonded carman of Lower Thames-street. The prisoner was in the service of Mr. Hartley, and on the 23rd of last month he received twenty-four bags of cochineal of two persons at their warehouses in Spitalfields, which he was to convey to Fresh Wharf. He went out of his direct route to that place and stopped at a coffeeshop in Leman-street, Whitechapel, for tea. While he was in the coffeeshop his horse and cart were driven away. The prosecution argued that there was something more than negligence in the conduct of the prisoner, and that the robbery was committed with his connivance. After he was informed that the horse and cart were gone he stayed to finish his tea. The horse and cart, without the twenty-four bags of cochineal, were found at Stratford. It was also urged against the prisoner that he ought to have given immediate information of the robbery at the Leman-street station, a few yards from the coffeeshop, instead of which he proceeded to Seething-lane station-house in the City. Mr. Benson could not say there was anything more than neglect to be attributed to the prisoner. He did not think any jury would convict on the evidence before him. He must therefore take the prisoner's own recognition to appear on a future day.

ELECTION DISTURBANCES.—A CONSERVATIVE CHEMIST AND DRUGGIST.

In connection with the election disturbances in Bristol ten men were charged with riotously assembling in East-street, Bedminster, and damaging several houses, on the afternoon of the 17th of November. The most serious charge was that against Francis Roue, a chemist and druggist, for leading the mob. Several witnesses were examined, and it was shown that on the polling-day a mob of about 150 men and boys assembled outside the shop of Mr. Witchell, draper, in East-street, having the cards and colours of the Conservative candidate in their hats. Roue, who was at the head of the mob, lifted his hat and pointed to the windows of the house, saying "That's the place;" upon which the others threw stones at the windows. A gentleman named Evans asked Roue if he had any control over the mob, and he replied that he had not, but he was a Conservative, and rejoiced to see the mob commit the damage, as the Liberals had done the same. When Mr. Witchell's windows had been broken Roue pointed to the house of Mr. Davis, a greengrocer, and said, "Up here, boys," and the crowd immediately smashed his windows. The mob, with Roue, also went to the Apple Tree Inn, kept by Mr. Calloway, the spirit vaults of Mr. J. B. Hassell, and the houses of Mr. G. Tovey, saddler, and Mr. J. Jones, pawnbroker, and broke the windows. Ultimately a detachment of police were called to the spot, and the mob dispersed. Police-sergeant Bendall apprehended Roue. The Bench committed Roue for trial, admitting him to bail.

ACCIDENTS.

EXPLOSION OF A PETROLEUM CISTERN.

An explosion took place on the 4th inst. on the premises of Messrs. T. Green and Co., wholesale druggists, Weaman-street, Birmingham. It appears that two men were engaged in cleaning a petroleum cistern. The vessel, which was about 6 feet in height and 2 feet 10 inches in diameter, had been removed from the cellar to the yard and was three parts filled with water, when one of the men engaged obtained a light, and placed it at the tap-hole to see if the cistern was clean inside. Whether there was a deposit near the tap-hole strongly impregnated with petroleum or not is not known; but it became ignited and exploded, blowing one end of the cistern completely out. The men were slightly injured, but more frightened than hurt, being burnt a little over the face and arms. No other damage was done to the property in the yard or building.

DEATH OF A CHEMIST FROM CHLOROFORM.

On the 10th inst. an inquest was held by Mr. W. Carter, at the Horse and Groom Tavern, Walworth-road, respecting the death of Mr. Abraham John Roberts, a chemist and druggist. Louisa Wilson said that she was in the service of Mr. Faulkner, 270, Walworth-road. The deceased was his nephew, and managed the business. He was subject to toothache, and had been in the habit of using chloroform to allay the pain. On Monday morning she knocked repeatedly at his bed-room door without obtaining any response. She then called his brother, and Mr. Crisp, a surgeon, was also sent for. The door was forced open, and the deceased was found lying in his bed quite dead. A bottle labelled "chloroform" was on a table at the side of the bed. Mr. Frederick George Crisp, M.D., having stated that death had resulted from chloroform, and that he believed that the deceased being suddenly seized with pain applied it to his face, and by inhaling the chloroform had lost his life, the jury returned a verdict of death by misadventure.

CONTRACTS OPEN.

The Guardians of the Borough of Birmingham are open to receive tenders for the supply of drysalteries.

The committee of the Derby County Asylum are open to receive tenders for dry-alteries, white leads, oils, etc. Tenders opened December 18th.

The Guardians of the Wolverhampton Union are open to receive tenders for drysalteries, December 18th.

Trade Memoranda.

WE have to acknowledge the receipt of an improved Poison Register book from Mr. Silverlock, which has been printed on a new model, each entry having a somewhat similar appearance to the form of application for a money order supplied by the post office. We need not add that the printing of this book is unexceptionably good. As it will be absolutely necessary before the date of our next issue that every druggist should be provided with a Poison Register of some kind or another, we will take the present opportunity of summarizing those which have come under our notice. It is a pleasure to remark that in every case considerable care has been expended to produce a respectable looking book, and chemists will be glad to be enabled to lay before their customers something having a more decent appearance than the old pamphlet in which the sale of arsenic was registered, though of course no amount of care in the arrangement of the spaces will prevent John Jones, the ratcatcher, from filling up his allotted portion with the first three letters of his autograph, and letting the rest wander over the book "at their own sweet will." Scores of inquiries have been addressed to us on the exact demand of the Act respecting the registration of poisons, etc., and in another column will be found an editorial article referring to these questions. We may give expression to the individual opinion, that a little extra amount of registration will hurt no one, and while it cannot fail to afford satisfaction to the chemist, it will, we are convinced, increase his reputation with his customers for care and accuracy. We have received specimens of the various poison books published, and as we have no fault to find with any of them, we shall content ourselves with the barest reference to each. Silverlock's came first. The form first adopted consisted of a number of spaces adapted to receive separately the particulars of sale, signatures, etc. The book issued by White and Pike, of Birmingham, was ruled and divided into separate columns, plainly headed with the necessary directions. This book was prefaced by a copy of the Act and a classified list of poisons, and it came out with the sanction of Messrs. Southall and Co., of Birmingham. In a second edition, Messrs. White and Pike increased the spaces devoted to the separate entries, and adopted a plainer style of ruling. Wilkinson, of Manchester, issued a book on much the same plan as Silverlock's, and Davis's book bore on its title-page the high-sounding words, "Authorised Edition." These words were objected to by the Council at Bloomsbury-square, who perhaps too readily jumped at the conclusion that they were referred to. Possibly, however, some other authority passed the work. Perhaps it was the Home Secretary, or the Emperor of China, or for aught we know, the man in the moon. Either assumption we should consider more probable than the wild theory that the Pharmaceutical Society should have rushed into commercial matters. All the above-mentioned works are issued by professional book-makers, and all have a good official look about them. Two amateurs have also joined in the Poison Book race, and according to our judgment have not been by any means left behind. Evans and Lescher's bears the unmistakable and, need we say, satisfactory impress of Bartholomew Close, and Mr. Mackay's Register might have been graced with the title of the drawing-room edition. Moreover, this book contains Mr. Mackay's excellent exposition of the Act, which we noticed last month. For prices and further particulars we refer our readers to our advertising columns, as we regard it as no business of ours to select for them a number of works, all of which are creditable to the publishers and equally useful.

The Compagnie Coloniale of Paris, whose excellent manufactures of chocolate we noticed last month, have removed their London wholesale depôt from Moorgate-street, to 4, Pall Mall.

Mr. A. C. Wootton, pharmaceutical chemist, Luton, informs us that a convicted thief, formerly in the drug trade, and now holding a ticket-of-leave has been endeavouring to obtain a situation as a chemist's assistant by the use of his (Mr. Wootton's) name and references. Fortunately, the

fraud was discovered in time to prevent any one from obtaining the services of this ingenious gentleman; but as he will probably make an equally cool use of some other name, we would advise chemists who are about to engage an assistant to be sure of the antecedents of candidates. Our hero's photograph may be seen at our office by any chemist presenting his card. We may add that the individual in question is under the care of the Discharged Prisoners' Aid Society. Beyond the present instance, and what we learn from their report, we know nothing of this society, but it does seem to us that when evidence is offered to them respecting one of their *protégés*, which their own officers admit to be conclusive proof of guilt, as was the case in the matter we refer to, they should have some better answer to make than an intimation that it was no business of theirs. We find from their latest report that out of 293 prisoners who came under their care during the year only four were reconvicted. Either the general public has conceived a very unjust prejudice against ticket-of-leave men, or 1½ per cent. is not a sufficient proportion of reconvictions in the course of a year. We fear the Society has but too well earned its name, and manifests, we think, too great a desire to produce a favourable report of their erring brethren.

Mr. Sidney Brown, in anticipation of the arrival of Christmas at its usual time this year, provides, through the ordinary channels, a very pleasing variety of elegantly labelled perfumery, emphatically for the million. A good hit is the production of a miniature case of Eau de Cologne, containing the orthodox six bottles, to retail at one shilling the lot. And when the customers see a two-ounce fancy bottle, containing fifty per cent. of pure glycerine and fifty per cent. of extract of roses, offered to them for sixpence, we imagine they have only two alternatives left, either (to borrow from an article in the *Times* on a recent important occasion) to "wonder and be silent," or to buy.

The old and highly respected firm of William Langton and Co., wholesale druggists, Laurence Pountney-lane, will for the future be carried on under the title of Langton, Harker, and Stagg.

GAZETTE.

BANKRUPTS.

BENNEL, JAMES, Chelmsford, medical botanist.
HOWARD, H., Bloomsbury-square, oculist.
BOWLES, ROBERT, Westminster, chemist.
MURCH, ED., Torquay, chemist.
STANLEY, F. A., Winchester, dentist.
STORMONT, H. J., Westbury, surgeon.
GOLDSTONE, T., South Stoneham, surgeon.
COLLIS, C., Torquay, photographer.
BICKFORD, NICHOLAS, Exmouth, chemist.
LLEWELLYN, HY., Brecon, druggist.

PARTNERSHIPS DISSOLVED.

HANBURY, D. B., C. D., and C. J., Plough-court, Lombard-street; so far as regards Daniel Bell Hanbury.
ALEWOOD, E., and MORGAN, J., Swansea, chemists.
HIGGINS and THORNER, Liverpool, druggists.
HINE and HINE, Beaminstert, chemists.
DEW, J., and GIBBONS, S. C., New Burlington-street, dentists.
BEGGAN, A., KERVEL, H. VAN, HEYERDAHL, S. A., and MOLLER, F. P., Oxford-street, cod-liver oil merchants; so far as regards A. Beggan.

BANKRUPTCY ANNULLED.

WATTS, A. B. B., Hurstpier-point, medical practitioner.



THE PHARMACY ACT AND ASSISTANTS ABROAD.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—I wish to lay before your readers the case of myself and numerous others who, having been apprenticed in England, and held situations there for a number of years, in consequence of being abroad at the time of the passing of the Act, are told, on application to the Registrar, that we

are excluded from any benefit from it. To instance my own case, I have been in the trade in England thirteen years, four of which as manager of a respectable dispensing business, and in June last accepted a situation here, as I might have in any part of England; yet am told that I cannot avail myself of the modified Examination, and am subjected to the same as the apprentice who is just entering the trade. By the insertion of the word *immediately*, I consider the Act is made to operate most unfairly to a large number of respectable and well-educated English chemists, who have gone abroad merely for a time to obtain more experience, and also of assistants in wholesale drug houses, and I think a petition should be arranged to be signed by them and placed in the hands of an intelligent M.P. by the time the new Parliament commences its Session for the removal of that word from the clause. Why should men of experience and ability, if not of scientific attainment, (which, by the way, do not much assist a man's business tact,) be made subject to a scientific examination on subjects, many of which do not come before them in the way of business, and be mulcted in the sum of five guineas to the Pharmaceutical Society, while any illiterate duffer, who had never been apprenticed or learnt the trade, but happened on the 31st July, 1868, to have a blue bottle in his window, and with the word chemist over his door, is admitted without any examination or fee?

I am, Sir, yours truly,

Jersey.

VINDEX.

LETTER FROM MR. WADE.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—I scarcely know whether it is expected that I should take any notice of the article that appeared in your last number, or the note which with undoubted right you appended to my former communication; but that you may not think me wanting in courtesy, I will just intimate that I have no desire or intention to introduce the sports of Donnybrook fair into your columns, though I cannot admit that a disagreement upon certain subjects should be a motive for withholding our individual sentiments. For years past I have rendered respect to your free thoughts, and received the same indulgence from you, and unless you have struck out a new path, I know of nothing to prevent the same difference of opinion being expressed without having recourse to broken heads or causing any unkind feeling.

The pith of your leader appears in the last paragraph, as an answer to Mr. D'Aubney's "Reason Why," and there you reiterate with increased emphasis that my letter was singularly illtimed. And one of the reasons you assign is that it "appeared in a journal which contained Mr. Brady's considerate remarks on 'Counter Prescribing.'" Reflecting that my letter was written two days before Mr. Brady delivered his address, it was utterly impossible that I should know such an event would occur; but, even had I been aware that his remarks, "considerate" on behalf of the Medical Profession, would appear, I know of no reason why my own remarks—considerate on account of my brother chemists—should not have been placed side by side, even though the Editor might extol the one, and censure with his severe condemnation the other. I congratulate myself upon the time being most opportune,—that without premeditation I should have been able to defend the bulk of the trade from Mr. Brady's strictures, mild and well-intentioned as they undoubtedly were. I cannot recall a single remark in my letter, although I can understand, now that you have become the champion of the Council, that you should take the opportunity to declare off. However much both Mr. D'Aubney and myself may regret your perversion, and as the opinions we now hold of the majority are the same as you once shared in, we are necessarily compelled to stick to our own colours, and if we cannot longer fight under your flag, it is because you have ceased to represent the interests of the class of druggists to which we belong. You consider my remarks "unwarrantable," and regret that I should "entertain such doubts, etc." Do you forget, Sir, that it was by a coalition that the Pharmacy Bill became amended? If so, permit me to remind you that our now pharmacutists supported the bill upon the distinct understanding that any chemist registered under the Act, could

upon application, become a member of the Pharmaceutical Society, without either an examination or pecuniary consideration beyond the annual guinea subscription, and yet one of the first acts of the Council was to propose a byo-law, and with a handful of members, at a hurried general meeting, to compel every candidate for membership to pay, in addition to the annual subscription, an "entrance fee of two guineas." Such an amount may be paltry to the gentlemen who proposed this tax, but it is, nevertheless, a direct breach of faith, and quite enough to convince me that all sections are not at present represented on the Council, and that little confidence can be given by those that are not represented. It is quite true the Pharmacy Act has become law of the land, and we all hope in time that the trade will be improved; but, although the Act is passed, the chemist is just what he was before, and white kid journalism is of little help to those of our craft who have to perform the mixed trade of chemist and druggist. The trade requires to be supported, and not condemned because it is compelled by circumstances to prescribe and vary its retail trade; and my regret is that we have no longer an organ to represent any section but pharmacy in its gentlest form.

I am, Sir, your obedient Servant,
Dec. 7th, 1868. JOHN WADE.

THE POISON LABEL.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—Since last month I have been thinking over the Poison enactments of the Pharmacy Act. The Schedule, as it now stands, is not likely, as far as I can see, to cause much embarrassment in ordinary business, except in relation to "Opium and all Preparations of Opium and Poppies;" the inconvenience of labelling such as "Poisons" will sometimes be greater than would at first sight appear.

I presume the intention of the Legislature was to prevent as far as possible the administration of such articles as hypnotics to infants. As far as I am individually concerned, I shall rarely be tempted to evade the law in that respect. I have always resolutely set my face against such a practice, and unless good cause is shown to the contrary, I refuse to supply anything of the kind for that purpose. Although located in a poor neighbourhood, I scarcely sell a drug to be used in that way once a week.

There is one point of view, however, in which compliance with the law will lead not only to unnecessary annoyance, but to positive absurdity. A customer happens to be suffering from an ailment not unfrequent at this season of the year, a common cold. Not deeming himself sufficiently ill to incur the expense of a doctor's fee (and doctors will be avoided as much as possible, there can be no question of that), he resolves to try the effect of a warm pediluvium and a Dover's powder at bedtime—having possibly experienced the good effects of such a mode of treatment on some former occasion. Now, in supplying his wants, if the law is to be carried out to the letter, the label must needs be written "the Dover's powder. Poison. To be taken at bedtime." A tempting dose, truly! I suppose the patient's first thought would be "Surely Mr. So-and-so has made a mistake; a Dover's powder is not poison, I am sure; I have taken it before and have certainly not been poisoned yet, and I believe a similar dose would do me good now. I cannot understand it." His next thought would be to send for an explanation, and what kind of satisfactory explanation could be given? "Oh, there is no mistake; the powder is quite correct, and may be taken with safety. It is not at all a poisonous dose, and will doubtless afford relief under the circumstances. In fact the quantity sent is perfectly innocuous in itself, and has only assumed a poisonous appellation in conformity with the Act of Parliament." I wonder which will impress the customer most,—the wisdom of the Legislature which passed such a remarkable enactment, or the dignity of the pharmacist who was obliged against his better judgment to follow out its sapient directions.

Again, a cough mixture is sometimes inquired for from an old family recipe, containing, it may be, Paregoric or Syrup of Poppies. Must it too be labelled with the objectionable word? I have often put up for example, Syrups of Poppies, Squills and Horehound, of each half an ounce. What will

be thought of me if I mark it "the Cough Mixture. Poison?" I fear I shall only be laughed at for my pains.

I believe it will be utterly impossible for the requirements of the Pharmacy Act to be rigorously observed in such matters. Anodynes will sometimes be asked for to be applied to perfectly legitimate uses, and we cannot help supplying them, even without the intervention of the prescription of a "duly qualified medical practitioner." To label them indiscriminately "Poison" will answer no useful purpose; on the contrary, its frequent appearance on packages which do not require it will only lead to its being disregarded or overlooked when the implied caution is of the utmost importance. I am, Sir, yours obediently,

PHARMACOPOLA.

CANCER APPLICATION.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—In the October number of your journal you point to the employment of Stramonium Ointment as affording relief under the pain of open cancer. The late Sir B. Brodie and Mr. Gascoigne were in the constant habit of prescribing the following application in similar cases and with marked benefit:—

R Conserv. Rosæ Gallic. bend trit. ʒj.,

Vini Opii.,

Liquor Plumbi Acetatis aa m℥v, Misce. S.A.

This was applied as an ointment, but it possesses this advantage over that class of applications, that, unlike grease, it is easily removed by tepid water when renewing the dressing, which should be done at least twice a day. If generally known it would probably now be prescribed. Some care and trouble is necessary in preparing the Conserve of Roses, so as to have it smooth. The product is of a dark green colour.

A. F. HASELDEN.

A VOICE FROM THE EAST.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—I should think that you are thoroughly tired of Poisons and Poison Bills, so I will alter my theme; I will endeavour to let some of our West-end druggists see what business is in the East—at all events in my locality. On Saturday I made an account of the customers served from eight o'clock, a.m., until twelve p.m. The amount was 400 persons:—

209 Penny Customers.

12 at 1s.

Patent Medicines, 3s. 4½d.,

and the remainder above 1½d. each, or in round numbers £1 the hundred customers. I can picture to myself the sneer on the countenance of the fashionable druggist, and fancy I can hear him thanking fortune that he has not to supply 200 of the "unwashed" in dirty bottles and cups; but it is by these very persons I obtain a living, and when in employ they are far more generous than those of a higher grade. The profits of a druggist here are very low; the grocer, oilman, etc., keep many of our drugs, etc., and sell them at a profit that no druggist could live upon. If a Bill had been passed to have kept the sale of drugs to druggists only, it would have benefited us all. The most profitable part of business is in dispensing prescriptions, but I am very thankful that I make up very few, as there is so much time, manipulation, and trouble attached to them, and I have so much to do that they do not pay. The chief part of a druggist's business in this neighbourhood is prescribing for the poor; but I do not put on a long face, and tell persons when I supply them with medicine "that I hope the physic, with God's assistance, will do them good."

The Pharmaceutical Society seems determined to make the next generation of druggists a learned race. It certainly is a very pleasant thing to feel that you know much more than your neighbour; but I am convinced, like the Greek professor, that your knowledge will never put £100 in your pocket. I know three druggists at the present time who have told me that they have never read even an elementary work on chemistry, yet each of them commands an excellent business. Unless you have a good business, it is but a sorry affair altogether; long hours, confinement, and want of employment, make up a wretched existence.

I am, sir, yours, etc., F. WHITE, Druggist.

MEDICAL LABELS.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—I am desirous of purchasing a set of labels suitable for the bottles and drawers in the dispensary of a public institution, and I have not succeeded in getting any which conform with the British Pharmacopœia, 1867, although there is a book of this sort by Silverlock, for P.B., 1864.

Will you kindly allow me to ask the trade, and the medical printers particularly, if any one has yet brought out a set for the British Pharmacopœia, 1867? By so doing you confer a benefit upon many of us, especially

Your old friend,

HENRY BARNABY.

Star Hill, Rochester, Dec. 7th, 1868.

DAVIS'S NEW PHARMACY ACT SALE OF POISONS BOOK.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Sir,—It is gratifying to see "A Reader of the Latin Grammar" has read to such advantage, and perhaps he will permit me to express my regret that in the hurry to meet the demand so eagerly made for my edition, many copies were printed and circulated before the errors in the spelling of some of the Latin names in the poison list, so kindly pointed out by your erudite correspondent were detected. I beg also to inform "A Reader of the Latin Grammar" that a corrected edition has been prepared, and that the medical profession and the public will not have occasion to inflict a "store of sneers" which he anticipated; and that in carrying out the axiom of "deeds, not words," his masterly knowledge would have been better exemplified had he kindly corrected the errors and forwarded them to me (as did a Mr. Seaman, of Marlow), which kindness I should have appreciated and acknowledged.

When I contemplated publishing my book, I determined to make it a complete and useful book of reference in addition to the Register, to effect which purpose I made a collection of tables and other useful information, and applied to Mr. E. Bremridge for permission to publish the programme of the Pharmaceutical Society, which that gentleman kindly granted and corrected; and as it was the only edition which contained any information relative to the Society, I did not feel that I was exceeding the privilege either by printing the name of the respected secretary, or denominating it the authorised edition. In the November number of your valuable journal Mr. Bremridge gave a public and just statement in reference thereto, which was as follows:—

"SALES OF POISONS BOOKS.

"Mr. Bremridge pointed out that of the several 'Sales of Poisons Books' on the table, one contained the words 'authorised edition.' He rose to explain that this was due to a misconception on the part of the publishers. He had found that they were going to include the regulations of the Pharmaceutical Society, and had simply favoured them by correcting their proofs in that particular."

I embrace this opportunity to refer to a severe remark made in the *Pharmaceutical Journal* for December (in return for my circulating the regulations of the Pharmaceutical Society) which would be likely to mislead the public, and in justice to myself, to state that a copy was forwarded to the editor of that journal, who was pleased to remark that—

"The arrangement adopted in this Poison Book is very clear, the particulars of each sale appearing on one line. Besides a copy of the Pharmacy Act, will be found some tables and other useful information."

As a further proof of the superiority of my edition, I would mention that several respectable houses, finding their own books deficient, have stooped to the unprincipled act of copying the information contained therein; but I have always maintained that there are more laudable means of progressing in business than that of getting on other men's shoulders.

I shall be most happy to forward, post free, on receipt of address, a corrected list of poisons, in place of the misspelled leaf, to any gentleman who has purchased my book.

Yours respectfully,

201, Old Kent Road.

J. DAVIS.

Varia.

ORGANIC MATTER AND SODA-WATER.

The author of the report on Soda-water which recently appeared in the *British Medical Journal* wrote:—"All the soda-water we have examined was fairly charged with gas. A faint smell of sulphurous acid was observed in some instances. This is probably not an objection; a very small quantity may even be beneficial. A very much more objectionable thing is, the disagreeable, almost foetid, smell of dead soda-water, which is so well known. This, which varies greatly according to the particular make, is no doubt owing to the trace of organic matter originally present in the water used for the manufacture of the soda-water. With the object of avoiding this, it would be quite worth while to have recourse to certain deep spring waters, which have been shown to differ from all exposed waters by being perfectly free from organic contamination." The Silicated Carbon Filter Company, in a letter addressed to our contemporary, suggest filtration as a ready means of removing organic matter. They write:—"In your report on the mineral waters of Commerce, reference is made to the disagreeable smell of 'dead' soda-water, which is, no doubt justly attributed to the organic matter originally present in the water used for the manufacture. That this is really the cause has been long known to the manufacturers of these waters; and it is equally well known to them, that a simple remedy is at hand for the removal of it; namely, the filtration of all the water required for their manufactures. This may be accomplished to any extent by means of the main service filter; and we can only attribute the disinclination of manufacturers to adopt this, to a mistaken parsimoniousness."

MAGNESIUM, ONE SHILLING PER OUNCE.

According to the *Builder* there is now a fair prospect of a reduction in the price of magnesium through some recent improvements in its manufacture. Our contemporary says it is probable that in the course of next year we shall see the metal retailed at or under one shilling per ounce.

THE ENDOSCOPIC.

This instrument is contrived for the study of the movements of the membrana tympani. These movements, according as they more or less deviate from the physiological standard, will indicate any irregularity in the middle, and even internal ear. The ordinary and healthy oscillations of the membrane are, as is well known, excited by deglutition, expiration, screaming, blows, efforts, and the contraction of some of the muscles connected with the ossicula auditus. Accidental oscillations are, on the other hand, produced by insufflation of air through the Eustachian tube, and the catheterism of the same. Now, the instrument in question is simply of a V shape, one stem of which enters the meatus externus, whilst the other tapers towards its extremity. At the bend is some coloured fluid, which rises and falls according to the oscillations of the membrana tympani. At least, this instrument has the merit of simplicity.—*Lancet*.



Now that the elections are over, the new ministry fully installed in office, the country quiet, confidence increasing, and Christmas approaching, we hope to see an impetus given to trade and commerce such as we have not felt for some time past. During the past month the trade in Drugs and Chemicals has been moderate, the prices of them continuing about the same. SALT PETRE has steadily advanced; for fresh arrivals 27s. and 27s. 6d. are asked. ACIDS: TARTARIC dull, Foreign held at 1s. 1d. and English at 1s. 1½d. CITRIC offering at 2s. 6d. and OXALIC at 8½d. per lb. SODA ASH has been in fair demand at 1½d. to 2d. per degree, as in quality. CAUSTIC SODA firmer at 13s. to 13s. 6d. for cream and white 60 per cent. 70 per cent held at 17s. per cwt. SODA CRYSTALS dull at £1 7s. 6d., and BICARBONATE at £10 to £10 10s per ton. Sales of PHOSPHATE at 33s. 6d. ACETIC 32s., and refined BORAX selling at 65s. per cwt. POTASH:

PRUSSIAN in limited request at 11½d. for yellow, and 1s. 11d. per lb. for red. BICROMATE firmer, and 5d., less 10 per cent required. CHLORATE offering at 12d. to 12½d. per lb. A considerable sale has been made on private terms. MURIATE steadily at £8 10s. per ton for 80 per cent. ALUM is very firmly held at £7 6s. to £7 7s. 6d. for lump, £7 15s. for powdered, and £8 15s. per ton for ground. SAL-AMMONIAC inquired for at 36s. for first, and 34s. per cwt. for second quality, and likely to be dearer. SULPHATE held at 17s., but buyers decline to give this price. CARBONATE 5½ per lb. SULPHUR firm. Roll £10 10s., and Flour £12 10s. to £13 per ton. LIME: BLEACHING POWDER dull at 10s. 6d. per cwt. ACETATE held at £12 10s. to £13 10s. for Brown, and £22 per ton for Cream. MAGNESIA: CARBONATE 42s. 6d. per cwt.; CALCIUM 1s. 6d. per lb. ARSENIC: Powdered held at £7 to £7 10s. per ton. PHOSPHORUS: Wedges at 1s. 8½d., and Sticks at 1s. 9½d. per lb. COPPERAS selling at 52s. 6d. per ton. COPPER: SULPHATE firm at 21s. per cwt. VERDIGIS 1s. per lb. LEAD: Sales of WHITE SUGAR at 40s. per cwt. BROWN 26s. 6d. to 28s. per cwt. Sales of NITRATE at 32s. per cwt. CAMPHOR bought in at £7 12s. 6d. CARDAMOMS are dearer at 10s. 6d. 250 cases CASTOR OIL sold at 5½d. and 5¾d. IPECACUANHA 5s. 9d. Our latest advices from Smyrna lead to the belief that OPIUM will maintain its present advanced price of 30s. to 35s. for some time to come. GUM ARABIC, E. I. 39s. to 60s. CUMMIN SEEDS bought in at 54s. NUX VOMICA 12s. 6d. Good CAPE ALOES are worth 1s. 9d. to 1s. 11d. SOCOTRINE £7 10s to £13. BALSAM CAPIVI 1s. 9d. BALSAM PERU still scarce at 11s. to 13s. SULPHATE OF QUININE is higher, in oz. bottles 4s. 11s., French ditto 4s. 6d. JAMAICA HONEY varies in price from 25s. to 45s. Picked GUM TRAGACANTH sold at £16 12s. 6d. 30 puncheons of JAMAICA LIME JUICE sold at 1s. 8d. to 1s. 9d. 5 pipes RAW LEMON bought in at 1s. 4d. EAST INDIA TAMARINDS at 25s. SCAMMONY, middling to good, 21s. to 29s. 6d. The latest sales of CHINA RHUBARB have shown an advance of 1s. per lb.

In Drysalteries Ashes, Pot and Pearl, are quiet at 31s. 6d. Galls at 92s. 6d. Shellac having advanced rapidly 3s. or 4s., holders were induced to bring forward large quantities, which has checked the upward tendency, so that prices are about the same as last month. Fine Lemony Orange is now 110s. to 112s. Red Liver, 84s. to 85s. Indigo is held firmly at 3d. to 4d. advance. Cochineal in good demand at 3s. to 3s. 3d. for finest silver; black, 3s. 2d. to 4s. Bengal Turmeric 3d. to 6d. lower at 21s. 6d. Flag Annatto bought in at 1s. 6d. For Cutch the market continues firm. Pegue at 28s. Gambier realized 16s. 9d. and 17s., stocks large. Myrabolams are in active demand at rather higher prices, 12s. to 12s. 6d. Red Oporto Argol sold at 45s. Jamaica Logwood sold at £5 15s. Laguna at £9 15s. Fustic £6 10s. Linseed is a shade lower at 60s. to 60s. 6d. per quarter.

OILS.

LINSEED has continued to decline, and is now obtainable at £26 10s. on the spot and at £28 January to April. Rape has been flat, but is now rather firmer at £31 spot. £31 15s. has been accepted for the first four and £35 for the last four months of next year. Refined has been steady at £33 to £33 10s and fine Foreign at £34. Cotton has again ruled in sellers' favour. After a long-continued depression PETROLEUM has rapidly risen in price, and is now worth 1s. 7½d. to 1s. 8d. per gallon for arrival, and within the next month a further advance of 1d. or 2d. is probable. Although considerable business is reported to have been in OLIVE OILS abroad at higher prices, the market here has been quite inanimate, and for 12 casks Messina from Liverpool £48 to £50 10s., and for 12 casks direct Lisbon of good quality £56 was accepted in public sale. COCOANUT, of which none has been offered by auction, has been difficult of sale at £51 Cochin and at £49 Ceylon. PALM, although easier, has met only a moderate demand at £44 for fine Lagos; 69 casks middling to fair coast oil sold by auction at £38 15s. to £39 10s. and 5 casks good Bonny at £41 15s. FISH OILS have moved off very slowly, SPERM £95. The parcels offered to-day met little or no demand. 34 tuns Labrador SEAL were either withdrawn or bought in at £33 10s. for fine straw, 7 tuns Newfoundland and 10 tuns WHALE withdrawn or bought in at £34. Oil Almonds is easier at 1s. 3d. Finest Bergamot still rules high at 23s. Lemon rather lower at 3s. 6d. to 6s. Pearl Sago has been bought in at 21s.;

1,000 bags for arrival has been sold at 18s. 6d. 60 Tins of St. Vincent Arrowroot have been sold at 3½d. to 3¼d. White Pepper advanced ¼d. per lb. Finest Cinnamon fetches 3s. 8d. to 4s. Nutmegs sold at previous rates 66 nuts to the lb. at 3s. 8d.; 75 at 2s. 4d. Mace is worth 2s. 3d.

Messrs. Dromer and Co. have informed us that their latest reports from their Leghorn correspondents give the present price of Olive Oil at 15 per cent. lower than that of the last crop, and they state that consequently large investments are being made in order to secure this advantage for the year.

Monthly Statement

Of the STOCKS, LANDINGS, and DELIVERIES of the following Goods at the PORT of LONDON, from Jan. 1 to Nov. 30, 1868 and 1867.

	Stock		Landings.		Deliveries	
	1868.	1867.	1868.	1867.	1868.	1867.
Aloes	cases	2590	3255	2552	3046	3282
	kegs	75	135	—	68	34
	gourds	1038	1893	1083	2716	1798
Aniseed, Star	chests	508	377	431	136	277
Arrowroot	casks	13725	13012	10132	11449	9143
	boxes and tins	18959	19587	12501	13961	12550
Balsam	casks, &c.	506	261	1016	753	759
Bark, Medicinal, casks and cases		267	318	159	328	197
	serons, &c.	6113	7485	16284	9192	18036
Bark, Tanners	tons	100	76	796	382	681
Borax	packages	133	91	102	727	120
Bees & veget. wax	bales & serons	380	248	574	375	441
	casks and cases	745	1355	1776	4785	2436
	cakes	1271	1289	3633	3720	3929
Brimstone	tons	—	239	—	—	—
Camphor	packages	1153	2450	2749	3204	3401
Cardamoms	chests	113	121	478	325	455
Cochineal—						
Honduras	serons	2469	3583	2852	7851	3795
Mexican	”	405	705	1662	1037	1959
Teneriffe	”	5518	5241	16138	17558	15735
Coculus Indicus	bags, &c.	1608	1028	1367	952	749
Colombo root	packages	1889	2218	240	1639	683
Cream of Tartar	casks	59	256	195	562	295
Cubebs	bags	1987	1283	1198	272	383
Dragonsblood	chests	170	78	218	91	145
Galls, E. I.	casks and cases	3116	2114	7611	6226	6433
Mediterranean	sacks	15	61	31	51	86
Gun—						
Ammoniac	packages	187	223	41	42	41
Animi and Copal ..	”	1295	1304	484	2544	4648
Arabic, Barbary	”	66	101	562	419	656
Turkey	”	77	35	56	274	63
East India	”	1894	1689	6108	4188	5240
Assafetida	”	75	66	270	77	240
Benjamin	”	1240	713	1560	1381	1199
Dammar	”	1219	1217	723	800	624
Gallianum	”	—	—	6	3	11
Gamboge	”	116	72	375	183	332
Guaiacum	”	87	100	171	223	168
Kino	”	205	97	291	74	184
Kowrie	tons	011	1645	1595	2349	2007
Mastic	packages	183	223	6	164	56
Myrrh, E. I.	”	73	22	247	70	191
Olibanum	”	1984	1301	4057	4614	3273
Sandarac	”	252	140	910	881	797
Senegal	tons	71	63	59	70	58
Tragacanth	packages	17	46	21	33	42
Ipecacuanha	casks and bags	112	120	421	395	436
Jalap	bales	250	265	444	229	444
Lac-Dye	chests	3567	3711	5120	2930	5128
Nux Vomica	packages	3324	3559	7912	2240	4036
Oil—						
Castor	casks	88	83	94	32	59
”	cases	461	670	2000	2106	1966
”	dippers and tins	11112	3615	51216	26010	44732
Palm	tuns	1018	375	6564	5147	6199
Cocoanut	”	2650	3410	9319	6957	9869
Olive	casks, &c.	669	2097	3572	5048	4578
Aniseed	cans	49	534	1075	596	1459
Cassia	”	1682	1278	1146	556	949
Opium	chests, &c.	190	251	—	—	no return
Rhubarb	chests—	1605	544	3001	1360	2003
Safflower—						
Bengal	bales	1307	1863	2581	3384	2059
Bombay	”	213	100	288	2	171
Saffron	packages	10	10	5	—	4
Sarsaparilla	bales	347	278	1470	1639	1459
Senna	bales, &c.	2450	2313	3020	3072	2812
Shellac	chests, &c.	10263	12575	14814	12082	16677
Sticklac	”	2199	2925	1544	1314	2149
Terra Japonica—						
Gambier	tons	2792	1675	6667	7678	8356
Cutch	”	1411	344	3010	1335	2023
Turmeric	”	748	802	1019	1421	1067
Vermilion	chests, &c.	116	90	130	158	95

Monthly Price Current.

[The prices quoted in the following list are those actually obtained in Mining-lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.]

CHEMICALS.	1865.			1867.		
	s.	d.	to	s.	d.	to
ACIDS—						
Acetic	per lb.	0	4	0	0	0
Arsenious (see Arsenic)						
Citric	per lb.	2	5	2	6	
Nitric	"	0	5	0	5½	
Oxalic	"	0	3	0	3	
Sulphuric	"	0	0	0	1	
Tartaric crystal ..	"	1	1½	1	1½	
powdered ..	"	1	2	1	2	
ANTIMONY ore.....	per ton	280	0	300	0	
crude	per cwt	23	0	26	0	
regulus ..	"	49	0	50	0	
star	"	48	0	0	0	
ARSENIC, lump.....	"	16	0	16	6	
powder.....	"	7	6	8	0	
BRIMSTONE, rough ..	per ton	132	6	132	6	
roll	per cwt	11	3	11	6	
flour.....	"	14	0	14	6	
Iodine, dry	per oz.	0	9½	0	10	
IVORY BLACK, dry ..	per cwt.	0	0	0	0	
MAGNESIA, calcined ..	per lb.	1	6	1	8	
MERCURY	per bottle	137	0	0	0	
MINIUM, red	per cwt.	20	9	21	0	
orange	"	31	9	32	6	
PRECIPITATE, red ..	per lb.	2	6	0	0	
white ..	"	2	5	0	0	
PRUSSIAN BLUE	"	1	0	1	10	
SALTS—						
Alum	per ton	150	0	155	0	
powder	"	170	0	175	0	
Ammonia:						
Carbonate	per lb.	0	5½	0	5½	
Hydrochlorate, crude,						
white.....	per ton	500	0	510	0	
British (see Sal Ammoniac)						
Muriate (see Hydrochlorate)						
Sulphate	per ton	340	0	260	0	
Argol, Cape	per cwt	76	0	82	6	
Fraunce	"	45	0	60	0	
Oporto, red ..	"	25	0	27	0	
Sicily	"	45	0	50	0	
Naples, white ..	"	55	0	65	0	
Florence, white ..	"	70	0	75	0	
red ..	"	60	0	65	0	
Bologna, white ..	"	0	0	80	0	
Ashes (see Potash and Soda)						
Bleaching powd. ..	per cwt.	10	9	11	0	
Borax, crude ..	"	25	0	40	0	
(Tuncal) ..	"	35	0	50	0	
British refind. ..	"	70	0	0	0	
Calomel	per lb.	2	5	0	0	
Copper:						
Sulphate	per cwt.	24	0	25	0	
Coppers, green ..	per ton	55	0	60	0	
Corrosive Sublimat. ..	per lb.	1	11	0	0	
Cr. Tartar, French, ..	per cwt.	83	0	84	0	
Veuetian grey ..	"	70	0	0	0	
brown ..	"	62	6	65	0	
Epsom Salts	per cwt.	8	6	3	6	
Glauber Salts	"	5	6	6	0	
Lime:						
Acetate, white, ..	per cwt.	12	6	21	6	
Magnesia:						
Carbonate.....	"	42	6	0	0	
Potash:						
Bichromate	per lb.	0	5	0	0	
Carbonate:						
Potashes, Canada, 1st						
sort	per cwt.	32	6	33	0	
Pearlshes, Canada, 1st						
sort	per cwt.	33	0	0	0	
Chlorate	per lb.	1	0½	1	1	
Hydriodate (see Potassium, Iodide)						
Muriate (see Potassium, Chloride)						
Prussiate	per lb.	0	11½	1	0	
red	"	1	9½	1	10	
Tartrate (see Argol and Cream of Tartar)						
Potassium:						
Chloride	per cwt.	8	3	8	6	
Iodide	per lb.	12	0	0	0	
Quinino:						
Sulphate, British, in						
bottles	per oz.	4	11	0	0	
Sulphate, French ..	"	4	6	0	0	
Sal Acetos	per lb.	0	10½	0	0	
Sal Ammoniac, Brit. cwt.	"	36	0	38	0	
Saltpetre:						
Bengal, 6 per cent. or						
under	per cwt.	24	8	24	6	
Bengal, over 6 per cent.						
per cwt.	"	23	9	24	0	
Madras.....	"	22	0	23	0	

	1868.			1867.		
	s.	d.	to	s.	d.	to
Saltpetre, continued:—						
Bomb & Kurracheepet.	0	0	0	17	0	18
European	0	0	0	21	6	22
British, refined ..	26	6	27	0	0	23
Soda:						
Bicarbonato....	"	11	6	13	6	0
Carbonate:						
Soda Ash....per deg.	0	1½	0	0	2½	0
Soda Crystals per ton.	80	0	82	95	0	0
Hyposulphite...per cwt.	16	0	22	20	0	0
Nitrate	15	6	0	10	6	11
SUGAR OF LEAD, White, cwt.	40	0	42	37	0	38
Brown	26	6	27	23	0	29
SULPHUR (see Brimstone)						
VERDIGRIS	per lb.	0	11	0	11	1
VERMILION, English..	per lb.	2	6	2	9	4
China.....	"	2	7	2	9	0
DRUGS.						
ALGEE, Hepatic....per cwt.	100	0	180	100	0	195
Socotrine ..	"	140	0	180	0	300
Cape, good ..	"	28	0	30	0	33
Inferior ..	"	16	0	18	0	29
Barbadoes ..	"	70	0	75	0	210
AMBERONIS, greyper oz.	30	0	35	33	0	36
BALSAMS—						
Canada	per lb.	1	3	1	5	1
Capivi	"	1	9	1	7	1
Peru	"	8	0	6	9	0
Tolu	"	2	6	2	4	2
BARKS—						
Canella albaper cwt.	30	0	38	22	0	27
Cascarilla.....	"	23	0	18	0	28
Poru, crown & grey per lb.	0	9	1	1	3	2
Calisaya, flat ..	"	2	8	2	6	2
quill ..	"	2	6	2	3	2
Carthagea ..	"	0	9	0	9	1
Pitayo	"	0	7	0	9	1
Red	"	1	9	2	6	10
Bucho Leaves	"	0	4	0	2½	0
CAMPBOR, China.. per cwt.	130	0	132	130	0	0
Japan	130	0	132	132	0	135
Refin Eng. per lb.	1	11	0	7	10½	1
CANTHARIDES	"	2	2	1	10	0
CHAMOMILE FLOWERS p. cwt	55	0	90	40	0	80
CASTORIUM	per lb.	5	0	1	0	20
DRAGON'S BLOOD, read p. ct.	100	0	220	90	0	220
lump ..	"	103	0	90	0	210
FRUITS AND SEEDS (see also Seeds and Spices)						
Anise, China Star pr cwt.	05	0	100	120	0	0
Germant, &c.	32	0	40	30	0	42
Beans, Tonquin .. per lb.	1	2	1	1	0	1
Cardamoms, Malabar						
good ..	"	10	0	7	9	8
inferior ..	"	6	6	5	3	7
Madras ..	"	5	9	5	0	7
Ceylon ..	"	2	10	2	3	2
Corozo Nuts.... per cwt.	12	0	16	12	0	20
Cassia Fistula ..	"	15	0	20	0	32
Castor Seeds ..	"	11	0	10	0	12
Cocculus Indicus ..	"	23	0	22	6	25
Colocynth, apple.. per lb.	0	6½	0	0	7	0
Croton Seeds .. per cwt.	90	0	95	90	0	105
Cubebs	"	40	0	45	0	47
Cummiu	"	31	0	14	0	20
Dividivi	"	10	6	17	0	24
Fenugreek.....	"	0	11	0	11	1
Guinea Grains ..	"	37	0	50	0	0
Juniper Berries ..	"	7	0	9	0	10
Myrobalans	"	11	0	12	0	16
Nux Vomica.....	"	12	0	15	0	16
Tamarinds, East India ..	"	30	0	20	0	29
West India, new ..	"	16	0	16	0	27
Vanilla, large per lb.	10	0	16	9	0	14
inferior ..	"	4	0	4	0	8
Wormseed	per cwt.	25	0	1	6	0
GINGER, Preserved, in bond						
(duty 1d. per lb.) per lb.	0	6	0	0	9	0
GUMS (see separate list)						
HONEY, Narbonne ..	"	0	0	0	0	0
Cuba	"	21	0	25	0	40
Jamaica ..	"	25	0	20	0	42
IPERCACUANHA	"	5	9	7	6	0
ISINGLASS, Brazil ..	"	3	2	2	6	4
Tongue sort ..	"	4	0	3	1	4
East India ..	"	2	3	2	2	4
West India ..	"	4	0	3	7	4
Russ. long staple ..	"	8	0	9	0	10
" leaf ..	"	5	6	6	0	9
" Simovia ..	"	1	6	1	9	2
JALAP, good	"	3	0	4	4	5
infer. & stems ..	"	0	6	0	9	3
LEMON JUICE ... per degree	0	1	0	0	0½	0
LIQUORICE, Spanish per cwt.	63	0	67	65	0	70
Italian ..	"	48	0	50	0	60
MANNA, flaky	"	3	0	3	9	4
small..... per lb.	1	6	1	1	0	1
MUSK..... per oz.	22	0	34	21	0	38
OILS (see also separate list)						
Almond, expressed per lb.	1	3	0	1	8	0
Castor, 1st pale	"	0	6½	0	7	0
second	"	0	5½	0	6½	0
infer. & dark ..	"	0	4½	0	5½	0
Bombay (in casks) ..	"	0	4½	0	5½	0
Cod Liver	per gill	4	0	3	6	5
Croton..... per oz.	0	3	0	1	2	1
Essential Oils:						
Almond	per lb.	40	0	37	0	40

1863.				1867.				1868.				1867.										
				s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.								
Essential Oils, continued:—				8.	d.	8.	d.	12	3	to	0	0	16	0	to	0	0					
Anise seed .. per lb.				12	0	6	to	0	0	80	0	..	90	0	240	0	..	280	0			
Bay .. per cwt.				75	0	..	0	0	0	11	0	..	16	0	160	0	..	220	0			
Bergamot .. per lb.				12	0	..	23	0	0	0	2	..	0	2	..	0	2	..	0	2		
Cajeput, (in bond) per oz.				0	12	..	0	2	0	0	2	..	0	2	..	0	2	..	0	2		
Caraway .. per lb.				5	0	..	6	0	5	0	..	6	0	40	0	..	40	10	..	0	10	
Cassia .. per lb.				5	9	..	0	0	6	6	..	6	8	37	0	..	39	0	..	0	0	
Cinnamon .. per oz.				1	0	..	4	0	1	3	..	3	6	36	0	..	37	0	..	0	0	
Cinnamon-leaf ..				0	6	..	0	0	0	5	..	0	7	110	0	..	0	0	..	0	0	
Citronella ..				0	23	..	0	23	0	23	..	0	0	0	0	..	0	0	..	0	0	
Citronella ..				0	31	..	0	0	0	4	..	0	0	0	0	..	0	0	..	0	0	
Clove .. per lb.				2	6	..	0	0	2	7	..	0	0	36	0	..	37	0	..	0	0	
Juniper ..				1	9	..	2	0	1	6	..	1	9	39	10	..	0	0	..	0	0	
Lavender ..				2	9	..	3	9	2	9	..	3	9	38	10	..	39	0	..	0	0	
Lemon ..				3	6	..	6	0	5	0	..	8	0	26	6	..	37	0	..	0	0	
Lemongrass .. per oz.				0	41	..	0	5	3	6	..	4	6	35	0	..	0	0	..	0	0	
Neroli ..				0	0	..	0	0	0	3	..	0	9	67	10	..	70	0	..	0	0	
Nutmeg ..				0	4	..	0	8	0	3	..	0	9	67	0	..	0	0	..	0	0	
Orange .. per lb.				5	0	..	7	0	5	0	..	7	6	64	0	..	66	0	..	0	0	
Otto of Roses .. per oz.				16	0	..	20	0	16	0	..	20	9	62	0	..	63	0	..	0	0	
Peppermint:																						
American .. per lb.				20	0	..	21	0	21	6	..	21	0	65	10	..	0	0	..	0	0	
English ..				38	0	..	43	0	34	0	..	44	0	57	0	..	0	0	..	0	0	
Rosemary ..				1	9	..	2	0	1	9	..	2	0	52	0	..	52	10	..	0	0	
Sassafras ..				3	6	..	4	0	3	0	..	3	3	42	0	..	50	0	..	0	0	
Spiranthe ..				12	0	..	24	0	16	0	..	25	0									
Thymo ..				1	10	..	4	0	2	0	..	4	0									
Mace, expressed .. per oz.				0	63	..	0	23	0	6	..	0	7									
Opium, Turkey ..				34	0	..	35	0	16	0	..	18	0									
Egyptian ..				0	0	..	0	0	3	6	..	7	0									
Quassia (bitter wood) per ton				170	0	..	200	0	100	0	..	105	0									
RUBIANA, China, good and fine .. per lb.				5	6	..	9	0	0	0	..	9	0	50	0	..	0	0	..	0	0	
(Good, mid. to ord.) ..				1	3	..	4	6	1	9	..	6	0	54	0	..	55	0	..	0	0	
Dutch trimmed ..				10	0	..	12	0	10	0	..	12	0	40	10	..	41	0	..	0	0	
Russian ..				9	0	..	10	0	9	0	..	10	0	34	0	..	35	0	..	0	0	
ROOTS:—																						
Calumba .. per cwt.				27	0	..	45	0	22	0	..	25	0	33	0	..	36	0	..	0	0	
China ..				30	0	..	35	0	30	0	..	0	0	44	0	..	48	0	..	0	0	
Galangal ..				10	0	..	18	0	16	0	..	17	0	40	0	..	43	0	..	0	0	
Gentian ..				16	0	..	17	0	16	0	..	0	0	18	0	..	20	0	..	0	0	
Hellebore ..				22	0	..	30	0	26	0	..	32	0	42	0	..	44	0	..	0	0	
Orris ..				33	0	..	42	0	32	0	..	42	0	18	0	..	20	0	..	0	0	
Pellitory ..				58	0	..	69	0	58	0	..	60	0	42	0	..	44	0	..	0	0	
Pink .. per lb.				0	7	..	0	9	0	10	..	0	11	0	18	0	..	20	0	..	0	0
Rhatany ..				0	6	..	0	10	0	6	..	1	0	42	0	..	44	0	..	0	0	
Seneka ..				1	6	..	0	0	1	6	..	0	0	18	0	..	20	0	..	0	0	
Snake ..				1	4	..	0	0	1	5	..	1	6	42	0	..	44	0	..	0	0	
SAFFRON, Spanish ..				28	0	..	35	0	30	0	..	34	0	65	0	..	68	0	..	0	0	
SALEP .. per cwt.				120	0	..	130	0	160	0	..	120	0	68	6	..	69	0	..	0	0	
SARSAPILLA, Lima per lb.				0	0	..	0	0	0	0	..	0	0	63	0	..	63	6	..	0	0	
Pala ..				1	0	..	1	3	0	10	..	1	4	63	0	..	63	6	..	0	0	
Honduras ..				1	0	..	1	7	0	10	..	1	4	63	0	..	63	6	..	0	0	
Jamaica ..				1	4	..	2	0	1	0	..	2	1	63	0	..	63	6	..	0	0	
SASSAFRAS .. per cwt.				15	0	..	0	0	10	0	..	0	0	63	0	..	63	6	..	0	0	
SCAMMONY, Virgin .. per lb.				28	0	..	35	0	28	0	..	30	0	63	0	..	63	6	..	0	0	
second & ordinary ..				10	0	..	23	0	11	0	..	23	0	63	0	..	63	6	..	0	0	
SENA, Bombay ..				0	3	..	0	51	0	2	..	0	31	63	0	..	63	6	..	0	0	
Ternivaly ..				0	2	..	0	10	0	2	..	0	10	63	0	..	63	6	..	0	0	
Alexandria ..				0	6	..	0	111	0	5	..	0	10	63	0	..	63	6	..	0	0	
SPERMACELE, refined ..				1	5	..	0	0	1	6	..	0	0	63	0	..	63	6	..	0	0	
American ..				1	4	..	0	0	1	6	..	0	0	63	0	..	63	6	..	0	0	
SQUILL ..				0	1	..	0	21	0	1	..	0	21	63	0	..	63	6	..	0	0	
GUMS.																						
AMMONIAC, drop .. per cwt.				200	0	..	260	0	180	0	..	220	0	125	0	..	135	0	..	0	0	
lump ..				120	0	..	140	0	120	0	..	160	0	50	0	..	70	0	..	0	0	
ANIMI, fine washed ..				230	0	..	280	0	200	0	..	220	0	170	0	..	190	0	..	0	0	
bold scraped ..				180	0	..	210	0	190	0	..	210	0									
sorts ..				100	0	..	150	0	100	0	..	130	0									
dark ..				10	0	..	0	0	72	0	..	100	0									
ANABIC, E. I., fine																						
pale picked ..				80	0	..	83	0	90	0	..	92	0	2	0	..	2	0	..	2	0	
srts, gd. to fin ..				60	0	..	77	0	80	0	..	90	0	1	3	..	2	6	..	0	0	
garblings ..				45	0	..	55	0	68	0	..	77	0	1	6	..	2	3	..	0	0	
TURKEY, pick. gd to fin ..				170	0	..	210	0	175	0	..	220	0	2	0	..	2	1	..	0	0	
second & inf. ..				85	0	..	160	0	85	0	..	170	0	0	10	..	1	0	..	0	0	
in sorts ..				70	0	..	95	0	70	0	..	88	0	0	10	..	1	0	..	0	0	
Gedda ..				48	0	..	53	0	42	6	..	47	0	0	51	..	0	0	..	0	0	
BARBARY, white ..				70	0	..	80	0	70	0	..	75	0	0	51	..	0	0	..	0	0	
brown ..				70	0	..	89	0	85	0	..	90	0	0	51	..	0	0	..	0	0	
AUSTRALIAN ..				32	0	..	38	0	50	0	..	60	0	0	51	..	0	0	..	0	0	
ASSAFETIDA, com. to gd ..				60	0	..	100	0	60	0	..	100	0	0	51	..	0	0	..	0	0	
BENJAMIN, 1st qual. ..				360	0	..	680	0	180	0	..	660	0	0	51	..	0	0	..	0	0	
2nd ..				140	0	..	240	0	160	0	..	300	0	0	51	..	0	0	..	0	0	
3rd ..				50	0	..	100	0	60	0	..	120	0	0	51	..	0	0	..	0	0	
COPAL, Angola, red ..				60	0	..	70	0	60	0	..	70	0	0	51	..	0	0	..	0	0	
Benguela ..				72	0	..	87	0	64	6	..	68	0	0	51	..	0	0	..	0	0	
Sierra Leone .. per lb.				0	6	..	1	3	0	6	..	1	2	0	51	..	0	0	..	0	0	
Manilla .. per cwt.				20	0	..	45	0	26	0	..	45	0	0	51	..	0	0	..	0	0	
DAMMAR, pale ..				90	0	..	100	0	65	0	..	75	0	0	51	..	0	0	..	0	0	
EUPHORBUM ..				18	0	..	19	0	18	0	..	21	0	0	51	..	0	0	..	0	0	
GALBANUM ..				180	0	..	220	0	240	0	..	280	0	0	51	..	0	0	..	0	0	
GAMBOGE, pckd pipe ..				400	0	..	420	0	740	0	..	980	0	0	51	..	0	0	..	0	0	
in sorts ..				0	0	..	0	0	0	0	..	0	0	0	51	..	0	0	..	0	0	
GUAIAUM .. per lb.				0	8	..	1	4	0	6	..	2	0	0	51	..	0	0	..	0	0	
KINO .. per cwt.				60	0	..	120	0	60	0	..	100	0	0	51	..	0	0	..	0	0	
KORRIE, rough ..				36	0	..	47	0	28	0	..	46	0	0	51	..	0	0	..	0	0	
seraped ..				50	0	..	100	0	40	0	..	75	0	0	51	..	0	0	..	0	0	
MASTIC, picked .. per lb.																						

